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ABSTRACT

This report discusses forces that are shaping alternative approaches to the delivery of postsecondary education, particularly distance education and open learning. One of these forces is the ever-changing composition of the student body, whose demands are increasing and whose needs are becoming more disparate because of a more and more sophisticated labor market. Distance education is being used successfully as a more cost- effective and less labor-intensive way in which to educate large numbers; in view of that trend tailored solutions for affordable student-centered education and some stylized models for open universities are provided. In addition to sketching background information, this report also explores specific issues regarding oversight of open-learning programs by the state government for consumer protection, the logistics of credit transfer and credentialing, and strategic considerations for implementing open learning situations and technologies. (BEW)

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OPEN AND DISTANCE LEARNING

ALTERNATIVE APPROACHES TO THE DELIVERY OF POST-SECONDARY EDUCATION

An Identification of Trends, a Discussion of Issues, and a Review of Models

A Discussion Paper

Prepared for the

Minnesota Higher Education Coordinating Board

by

Helmut Schweiger

December 1994

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OPEN AND DISTANCE LEARNING

ABSTRACT

BACKGROUND

Change any time anywhere raises questions about how and why we choose to do what we do. An examination of philosophical, organizational, and operational values in the presence of a number of problems and opportunities is both desirable and necessary. Post-secondary education is under review and reconstruction world wide. In historical perspective, conditions for successful change are right when external pressures and inducements combine with a readiness within to take a fresh look at the way things are done.

This report was prepared with the policy mandate of the Minnesota Higher Education Coordinating Board in mind. As such, it attempts to sketch in broad strokes background information relative to the phenomenal growth of alternative approaches to the delivery of post-secondary education. It sketches also in stylized form the dominant models of distance education that have emerged, and what the author perceives to be the future directions. It touches also on the ancillary issues of state oversight-consumer protection, and credit transfer and credentialing. Finally, it identifies some strategic considerations and options.

The objective was to provide enough information to stimulate and contribute to the already ongoing policy debate relative to distance education's future in Minnesota, not to furnish detailed analyses, structural and operational detail, or specific recommendations.

During the past 25 years, a number of forces have begun to drive alternative approaches to the delivery of post-secondary education: the democratization of post-secondary education, resulting in ever larger numbers of individuals seeking admission to colleges and universities; the needs of an ever more diverse student body; the demands of increasingly knowledge-based and technologically sophisticated economies necessitating access to life-long learning opportunities; the expectations of consumers of education services who have become accustomed to the benefits new technologies provide in their daily lives; and the search of financially strapped governments for convenient, cost-effective and efficient alternative ways to the provision of post-secondary education.

The conventional delivery of post-secondary education is capital- and labor-intensive. Technologically supported delivery of post-secondary education has the potential of an industrial model of production. It is capable of taking advantage of the potential of the new technologies for purposes of development and distribution of learning materials, communication between instructors and students, and among students. The goal is to provide convenient access to affordable post-secondary education, to design high quality courses that can be delivered effectively and efficiently to virtually unlimited numbers of learners, and to develop appropriate pedagogical methods. Distance education and open learning is emerging as the dominant mode.

Distance education and open learning has established itself as a legitimate approach to provide quality post-secondary education. A review of constituencies that have established alternative delivery systems for post-secondary education over extended periods of time shows that each approach, conventional and new, fills a specific need and fills a particular niche in the post-secondary education infrastructure.

Based on the evidence, predictions of the obsolescence of conventional colleges and universities and their imminent demise are premature. In the constituencies reviewed, conventional post-secondary education institutions continue to serve well the purposes for which they were designed, while alternative approaches respond primarily to new important unmet needs and new communities of learners.

The relationship of radio and television provides a ready analogy. Radio did not cause the demise of the newspaper, and television did not sweep radio, movie theaters and the live stage into history. They complement each other by serving real and distinct needs of a rapidly evolving and complex society. Colleges and universities as we know them today will continue the necessary and important functions of providing education to a majority of young adults, and of preparing them for initial entry into the world of work. They are suited best for the "socializing" function of the education experience.

DISTANCE LEARNING AND OPEN UNIVERSITIES

The conventional post-secondary education occurs primarily in a defined "physical plant" setting: a campus consisting of classrooms, libraries, laboratories, and student life support facilities. The focus is on creating a community of scholars, the proximate face-to-face interaction of faculty and students, and interaction among students. Alternative approaches have evolved essentially as technologically supported distance education. Time and space are practically irrelevant. One or a mix of technologies take the place of proximity to faculty and learning resources in space and/or time. The focus is on the creation of both an individualized learning environment and a community of learners.

Post-secondary distance education has been available in the United States since the late 1800s. It consisted primarily of correspondence study, home study, and independent study. It has not enjoyed the same standing as conventional study. The establishment of the Open University of Great Britain in 1969 marked the beginning of a process to establish distance education and open learning as legitimate approaches for post-secondary education. At present, the Open University of Great Britain enrolls well over 100,000 students, more than any other university in Great Britain. Today, over 30 open universities have been established world-wide.

In the United States, a substantial number of public and private colleges and universities have entered the distance education and open learning markets. The number appears to be growing. It is a rich mosaic of experimentation. Some of the colleges and universities are developing their own distance education capacities, while others combine their efforts in cooperative ventures or work within consortia. The medium of transmission ranges from correspondence by mail to interactive television, and work toward establishing "virtual classrooms."

Unlike European and Asian jurisdictions, in the United States no single distance education provider has emerged to dominate the market. With the exception of Canada and India, the countries where dedicated distance education and open learning providers are firmly established, each jurisdiction has one comprehensive dedicated provider to serve the national market.

In sifting through the information, a number of common traits and distinctive patterns suggested treatment of alternative education approaches in two broad model categories: 1. distance learning as a technologically replicated conventional teaching environment, and 2. open universities.

Distance learning as a technologically replicated conventional teaching environment aims to duplicate the conventional classroom environment using the new technologies. It is the primary approach of conventional colleges and universities to enter the distance education market. In its simplest form, an instructor lectures before a camera and/or microphone in an electronically furbished master classroom to one or more receive sites. Students are assembled in classroom-like environments. Teaching may be one-way visual or one-way voice only, two-way voice only, one-way visual with interactive voice, or two-way interactive visual and voice. Transmission technology consists of one or a mix of equipment, such as computers, video cameras, monitors, telephones, radios, cassettes, and compact discs. The instructor's presentation is transmitted over airwaves, cable, microwave, fiber optic cable, phone lines, or satellite up- and down-links.

Open universities differ from conventional colleges und universities on practically every level of operation and in their philosophy of education. Open universities have no campus. They provide their education services primarily at a distance. They have no dormitories. Their student population is widely dispersed. They do not have a "teaching" faculty. Their students are self-directed learners. Open universities do have learning support services, such as library services, laboratory experiences, and counselling. But they provide them in different ways. Open universities do not teach in the conventional sense. They create learning opportunities. The first steps in creating a learning opportunity is the development of a learning package and a learning plan for each course to be offered. Course teams develop courses with maximum flexibility built in. Modules within courses provide for even greater flexibility. The modular structure facilitates course updating to maintain course currency. It makes it less costly, because only out-of-date modules, not the entire course, need reworking.

The open universities' primary medium for structuring the learning packages has been print. Videos, videodiscs, and computer diskettes, are beginning to be integrated into the learning packages more aggressively. Broadcast and closed circuit transmission of learning materials by means of radio and television have rather limited application. Basic laboratory experiences are furnished through the provision of kits to students. More advanced laboratory experiences are provided through contractual arrangements with universities or with industry. The primary goal is to provide for the greatest possible flexibility in course use to achieve an environment of individualized instruction. Open universities achieve this flexibility by shaping course content, pedagogical methodology, learning resource materials, and timing to the needs of individual learners.

For each course a student is provided with a learning package and a learning plan. Course resource persons are available to students throughout the course through a number of communication options: mail, phone, E-mail, computer, and for face-to-face meetings at regional support sites, to assist with the learning process and to facilitate access to supportive resources.

The individual learning process is complemented by one or more comprehensive workshops and seminars. They are frequently scheduled during week-ends. In some disciplines, workshops of longer duration are arranged at either the open university's central site or by using the facilities of a conventional university or meeting facility. Regional sites provide learning support services and access to resources. They are most frequently located at a conventional university. Open universities have adopted the industrial model of production: build a good product and then provide top consumer service.

The size, role, and structure of faculty at open universities differ from that of the faculty at conventional colleges and universities. It is a

less labor intensive environment. Open universities have core faculty. They do not teach in the traditional sense. The faculty's primary function is to plan, implement, and administer academic programs, and to participate in the preparation of learning packages for the courses which make up the programs.

Open universities are structured along operational lines. In addition to the faculty and course resource persons or monitors, open universities generally have an administrative unit to manage the overall operation of the institution; a planning and development unit to manage the development, acquisition, and assemblage of learning packages and the development of learning plans; and a communications unit to get learning materials to students and to manage communication between course resource persons and students, and among students.

The funding patterns and funding requirements of open universities differ from those of conventional colleges and universities as to timing and focus of material allocation. While open universities do not require substantial investments in buildings, like the industrial model of production, they require very substantial funding up front for program and course design and for the production of learning packages before any delivery of education services can take place and before enrollment driven income can be generated.

Open universities are less capital and less labor intensive relative to the size of the student population they are capable of serving. The operation of open universities over 25 years has shown that they are capable of providing quality education.

Because the location of an open university relative to its student population is irrelevant, it can never be built at the wrong spot. The model of an open university is uniquely adapted to draw on and maximize existing educational resources wherever they are located relative to student concentrations. It can draw on the expertise of existing faculty, and on the physical resources of colleges, universities, and industry and commerce.

Flexibility in time and space makes it possible for substantial populations of individuals to access post-secondary education. These individuals could otherwise not do so, or they could do so only with serious interruptions to their lives and careers. For the same reasons of flexibility, the individualized learning processes of open universities are uniquely adapted to assist individuals to stay competitive in modern labor markets which require more and more periodic and just-in-time continuing education and retraining.

Some open universities are beginning to move in creative directions. They are emerging more as multimedia education brokers and learning networks than as stand-alone providers of post-secondary education. Multimedia education brokers and learning networks take the open university concept one step further. They espouse the same philosophy of education. The focus is on creating learning opportunities and on individualized learning. They build on the same operational principles of structuring learning packages and learning plans. They develop the same support mechanism of course resource persons and strategically located regional support sites. They will network with and rely on other providers to a much larger extent for course packages and learning resource support. Instead of print and mail, the emerging models of multimedia education brokers and learning networks will structure the learning packages more extensively on a multimedia base. The learning materials will be stored on a central computer, and the learning plan will be managed by the computer. Students will be able to access the central computer with a personal computer with multimedia capabilities and download learning materials or pursue the learning process interactively. The computer will become also the primary medium for dialogue with course resource persons and among students. Some of the providers of post-secondary education will be brokers

who will network, manage, and coordinate the courses and programs of participating post-secondary education providers.

ISSUES

Equitable access to a reasonably full range of programs throughout the state has been an issue for some time. Based on the experience in other jurisdictions, distance education could provide an expedient, cost-effective, and equitable way to respond to these needs. It would have one distinct advantage over expansion of one or more current campuses. It would require **only one expansion** of the state's post-secondary education system to make available all programs offered through distance education everywhere in the state. The expansion would **never be at the wrong site.**

A review of jurisdictions with successful distance post-secondary education services suggests that the collective approach does not generally appear to be the most effective. Given the Minnesota post-secondary education community's tradition of collegial decision-making, the collegial approach may not provide the proper forum to move swiftly and aggressively toward a distance post-secondary education solution for the state. There appears to be a need for, if not a dedicated provider, at least a state-wide dedicated organizational framework to stimulate the development of an alternative post-secondary education option for Minnesota.

Alternative education delivery will not develop and succeed by the acts of a single agent or interest. It requires the cooperation and sharing of resources of various partners. Based on the evidence, what it needs to gain momentum and to succeed is a focus. This focus is a decision structure that is committed to and responsible for its implementation and success.

To become reality, an alternative approach needs an advocate. It needs an advocate who is in a position to promote, encourage, facilitate, and guide its development. It needs a facilitator who can build the necessary partnerships and who has the skills to assemble the necessary contacts for engaging faculty. It needs a mover who will explore the feasibility of proposals, and bring together the necessary expertise and support to develop them. It needs an advocate who has the authority to make decisions and to allocate funds.

Technology-based delivery of post-secondary education is not inherently more expensive than the conventional approach. For both costs can range widely depending on considerations of quality, the range and type of programs to be made available, and, most dramatically, on the choice of facilities and technologies employed.

When planning for an alternative delivery approach, a significant consideration, both from a cost and a methodological perspective, is to fit the technology to the particular circumstances. The technologically most sophisticated approach is not necessarily the most appropriate, or the most efficient and most effective for a particular discipline or subject matter to be treated.

RELATED ISSUES

The development of alternative approaches to the delivery of post-secondary education suggests a look also at two further issues: state oversight and credit transfer and credentialing.

Credit transfer and credentialing.

The rich mix and large number of public and private providers of post-secondary education have created a "name brand" recognition environment relative to the value of earned degrees. Within this context exist significant limitations regarding the transfer of earned credits from one provider to another and the counting of credits toward the awarding of credentials. The situation is particularly burdensome to the needs of a highly mobile society, where frequently it is not feasible for an individual to stay long enough within the delivery range of a provider to complete all requirements for a credential. The situation will be aggravated further with the rapidly increasing access to even wider ranges and different types of providers of post-secondary education in the immediate future. The arrival on the post-secondary education scene of providers focusing on alternative approaches to post-secondary education, such as specialized distance learning providers and electronic universities, will require ultimately new approaches for credit recognition and credentialing. While it appears reasonable that a provider should not be required to warrant education credits not under its control, it appears equally unreasonable to an individual who has earned credits from accredited providers not to have all validly earned credits counted toward an appropriate credential. The trend toward outcome-based education assessment, combined with a shift from emphasizing teaching to emphasizing learning, also will require ways to assess knowledge and skills toward a credential, no matter where and how the knowledge and skills were acquired.

A legislatively mandated credit bank and/or assessment credentialing authority could provide a credible solution to the problem of credit transfer and the recognition of alternative learning. It could provide an important service to the learning public. Two jurisdictions have addressed this issue. They could serve as models for the development of a solution for Minnesota.

State oversight as consumer protection.

With almost universal access to and substantial direct and indirect government funding of post-secondary education, governments have shown increased interest in its regulation. Beginning most significantly during the 1960s, the states began to enact statutes and to create bodies to regulate and oversee public and private providers of post-secondary education. The Minnesota Legislature enacted two statutes that address issues related to consumer protection. They are Minn. Stat. 141 and Minn. Stat. 136A.

The statutes and control mechanism now in place will most likely not be adequate in the future to assure effective oversight. Providers of post-secondary education at a distance by means of the new technologies transcend traditional concepts of space. They do not readily fit into the traditional concept of territorial jurisdiction.

In the past, overseeing and regulating the delivery of post-secondary education in the state has been facilitated by the need of a physical presence of the providers in the state. Areas of operation were defined by the jurisdictional borders of the state. Providers of post-secondary education operated facilities in the state, used in-state media for advertising, or used the mail or some form of communication or transmission mechanism that entered the state's jurisdictional framework in an intentional manner to deliver the education services to residents of the state.

The emergence of national and international providers of post-secondary education by non-traditional means, especially by means of the new technologies, creates significant limitations and new obstacles for state oversight. It makes traditional oversight almost unenforceable. The limitations and obstacles arise from practical and legal considerations.

In the coming technological environment, the major issue for state oversight is how to obtain practicable jurisdiction in situations where a provider has no physical presence in the state and does not explicitly target residents of the state as potential students. Issues related to the Commerce Clause of the United States Constitution will most probably enter the debate relative to the future definition of the states' power to regulate out-of-state post-secondary education providers.

Statutes inhibiting the free flow of interstate commerce have been found unconstitutional by the Supreme Court. Relative to higher education, there has not as yet been a conclusive litigation. The matter will most probably be elevated to Court consideration when a major technology-based provider of post-secondary education emerges on the national level and challenges a state oversight provision.

The new technologies increase the complexity of the oversight process for states. If the aim is to protect consumers, protection can be achieved by "policing" providers or by educating consumers. The policing process could become impracticable because not all providers may be able to be reached under the law or in practice. Policing has also become difficult for the Coordinating Board simply because the financial and staff resources for the policing process are no longer sufficient. Alternative methods could potentially provide more effective results more efficiently.

A compact of states to share oversight of "out-of-state" providers of post-secondary education on the national level does not appear practicable due to legislative considerations and differences in state needs. Even if such a compact could be achieved, it would not reach providers operating outside the United States.

An aggressive public information and consumer education program, reenforced by a credible rotating or spot auditing program, could serve as a powerful tool for the protection of Minnesota consumers of post-secondary education. The threat of potential wide public disclosure of non-compliance with legislative provisions, and of substandard programs and services, could serve also as a powerful tool to induce providers of post-secondary education to conform to the standards required by the state.

INTRODUCTION

Change can be brought about by force and legislative fiat. The success of forced change is frequently mitigated by resistance or neglect. Successful change happens when external pressures and inducements combine with a readiness within to take a fresh look at the way things are done.

Change any time anywhere raises questions about how and why we choose to do what we do. An examination of philosophical, organizational, and operational values in the presence of a number of problems and opportunities is both desirable and necessary. Post-secondary education is under review and reconstruction world wide.[1] In historical perspective, conditions for successful change are right when external pressures and inducements combine with a readiness within to take a fresh look at the way things are done.

There are plenty of external pressures. Enrollments keep increasing, in many instances taxing the limits of colleges and universities. The increases are due in part to the democratization of post-secondary education during the second half of this century, moving toward almost universal access. They are due also in part to the requirements of the labor market, where the growing sophistication of national economies require higher levels of knowledge and skills and life-long

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[1]C.R.E. Conseil des recteurs européens. The Chronicle of Higher Education. September 14, 1994. A 67. Report of the Conference.

This was the focus also of a number of discussions at the Second Annual Meeting, Standing Conference of Presidents, of the International Council for the Development of Distance Education (ICDE.), Saratoga Springs, New York, October 23-26, 1994. The proceedings should become available early in 1995.

learning to stay employable. Governments find themselves unable or unwilling to increase funding to post-secondary education due to conflicting urgent demands on public funding. Some even have reduced funding substantially.[2]

There are also inducements. The new technologies offer opportunities to enhance post-secondary education, to make it more effective, and to make it more cost efficient. The new technologies offer opportunities to serve large and diverse student populations in convenient and flexible ways.

Because post-secondary education is so essential for the maintenance of Minnesota's quality of life, skilled labor force, and economic competitiveness, orderly planning to manage the change has become a strategic necessity. Thoughtful planning is essential to preserve post-secondary education's quality and integrity.

Minnesotans recognized early that the new technologies presented opportunities to make post-secondary education more responsive to the state and its citizens' needs. The legislature, the Minnesota Higher Education Coordinating Board, and the post-secondary education community have accomplished much in recent years. They have identified unmet post-secondary education needs. They have begun to put into place a statewide communication infrastructure to support alternative delivery of education.

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[2]For example, Oregon has reduced funding to post-secondary education substantially during recent years. The governor of Washington has announced substantial cuts scheduled to begin in 1995.

Planning until now has focused on the hardware aspect of the production and transmission technologies' potential. To be able to exploit optimally the potential of the hardware under development, attention must now be given to content issues such as: who should be served, what should be carried, who will provide the services, and, **most urgently, how the process should be managed and supported.**

Technology-based, more specifically alternative or distance, education[3] has taken hold world wide during the past 25 years. It has done so by complementing the conventional post-secondary education infrastructure. Its expansion does not appear, as some predicted, to sweep conventional colleges and universities into history. Alternative education's phenomenal growth is attributed to its ability to serve unmet needs of new and different student populations. As such, it takes a distinct, mostly new place in the post-secondary education infrastructure.

This report is intended to complement the work in progress by identifying and discussing a number of issues that should now be addressed. The report draws on the experience of **comprehensive**[4] alternative post-secondary education providers.

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[3]For purposes of this report, alternative education refers to modes of providing for post-secondary education services other than within the conventional campus and classroom face-to-face instruction environments. A primary distinctive aspect of alternative approaches to the delivery of post-secondary education services is physical distance between the learner and the furnisher of the education services. The terms "alternative education" and "distance education," therefore, are used interchangeably throughout the report.

[4]"Comprehensive providers" for purposes of this report implies providers with full-service program development tendencies. The distance education efforts of most conventional colleges and universities are ancillary

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Information was gathered through site visits, correspondence, and discussions with individuals involved with alternative education.[5] A review of the literature was beyond the scope of the report.

The report begins by identifying a number of trends, currents, and forces that are shaping the delivery of post-secondary education and a shift in educational philosophy from emphasis on teaching to emphasis on learning. It groups post-secondary education providers into two broad categories and develops for each category a stylized operational model of distinctive features. The report discusses emerging issues for consumer protection in post-secondary education and issues related to credit transfer and the granting of credentials. The report concludes with some strategic considerations and options.

Chapters IV and V discuss state oversight-consumer protection and credit recognition issues respectively. These issues are not specific to distance education and open learning. The need to address them has been recognized for some time.[6] These issues are discussed within the context of this report,

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operations. Their detailed consideration is beyond the scope of the report.

[5]An International Council for Distance Education (ICDE) sponsored meeting in Saratoga Springs, New York, in October 1994, provided opportunities to follow up on earlier contacts, to obtain new insights, and to become acquainted with late developments.

[6]The Higher Education Coordinating Board had sought a review of Minnesota oversight legislation during the legislative session in spring 1993. During the same period, the federal government's State Postsecondary Review Program (SPRP) entered the implementation process. Credit recognition and transfer has been an issue of repeated consideration by the legislature and the Coordinating Board.

because the increased availability of distance education and open learning opportunities adds new dimensions to the perceived problems and elevates the need to consider them.

The report was prepared with the policy mandate of the Minnesota Higher Education Coordinating Board in mind. As such, it attempts to sketch information and issues in broad strokes. The objective was to provide enough information to stimulate and contribute to the already ongoing policy debate relative to distance education's future in Minnesota, not to furnish detailed analyses, structural and operational detail, or specific recommendations.

CHAPTER I

Chapter I sketches recent trends and current forces that are shaping alternative approaches to post-secondary education, education at a distance and open learning. It positions the origins of these trends in an historical context. Although the new technologies are a major stimulus, distance education and open learning are not equated with the use of the new technologies in providing education at a distance or open learning. Among the driving forces behind the development of alternative learning contexts are: the democratization of post-secondary education, resulting in ever larger numbers of individuals seeking admission to the nation's colleges and universities; the needs of an ever more diverse student body; the demands of increasingly knowledge-based and technologically sophisticated economies necessitating access to life-long learning opportunities; the expectations of consumers of education who have become accustomed to the benefits new technologies provide in their daily lives; and the search for convenient, cost-effective and efficient alternative ways to provide post-secondary education. Chapter I identifies also, based on current evidence, the alternative delivery modes' probable future niche within the overall infrastructure of post-secondary education.

A BRIEF SKETCH OF TRENDS

A retrospective of what was. Post-secondary education as preparation for life. Education for the more affluent and intellectual elite.

Until about the middle of the present century, post-secondary education focused on the broad intellectual and socio-cultural development of young adults. Preparation for the world of work played a subordinate role. Post-secondary education was within the reach generally of the more affluent and the more gifted. The labor market did not require advanced levels of education for the majority of workers.

The post World War II era furthered the democratization of post-secondary education. Facilitating access to post-secondary education evolved as social and economic policy.

The years immediately following World War II brought about the democratization of post-secondary education in the United States.[7] The federal and the state governments promoted accessibility as social and economic policy. They provided funding for the rapid expansion of existing universities and colleges, and they created new systems. The GI Bill came first. Then came student financial assistance programs enabling even the most needy individuals to benefit from a post-secondary education.

Government policies and contributions by philanthropic organizations aided the expansion of colleges and universities. Post-secondary education as an opportunity, if not a guarantee, for social, career, and economic upward mobility, came into the reach of almost everyone qualified.

At the same time, the increasing sophistication and complexity of work environments demanded increasingly advanced levels of education and training. The availability of larger numbers of individuals with advanced education experiences, in turn, raised employers' expectations for the education level of new hires.

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[7]Although the demand for access to post-secondary education in the rest of the world has not yet reached the relative percent-to-total population proportions as in the United States, most industrialized nations began to have significant increased demand beginning during the 1960s and 1970s. Most of the rest of the world is acknowledging this increase in demand beginning with the 1980s.

A shift in emphasis: post-secondary education as preparation for the world of work. Post-secondary education institutions as resources for economic development and competitiveness.

Historically, the preparation for life aspect was the dominant shaping force of European and British-North American post-secondary education policies. With the democratization of post-secondary education, the need of large numbers of less affluent graduates to earn a living shifted the focus to post-secondary education as preparation for the world of work. The rapid diversification of job-specific programs and modifications in general education requirements, beginning during the 1960s, are manifestations of this shift in emphasis.[8]

More recently, expectations have been voiced with increased urgency that colleges and universities should identify more closely with the economic development of their surroundings; that they should align the output of their graduates with the needs of the labor market.[9] A number of states have mandated, through legislation, post-secondary program management policies

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[8] A staff document prepared for the Maritime Provinces Higher Education Commission, Fredericton, New Brunswick, Canada, during the early 1980s, identified in excess of 1,000 baccalaureate titles available through North American post-secondary education institutions. This compares to fewer than 100 baccalaureate titles earlier in the century.

[9] Dr. J. Boon of the Open Universiteit, Heerlen, The Netherlands, wrote in EADTU - News, Issue 15, December 1993. Page 20. Higher Education and the Labour Market "Worldwide, educational systems are under review and reconstruction. Increasingly human resource development is seen as a national priority. This priority is faced with a growing complexity of production methods and a widespread influence of information technology. Many OECD countries are rapidly moving toward a more knowledge intensive economy based on a new techno-economic paradigm. This trend has consequences for educational and labour market policies, and especially for the coordination of both domains."

to move universities and colleges in that direction.[10] Equally, responding to the change in public expectations, a number of colleges and universities have established industrial innovation centers, research parks, and a variety of university/college-industry partnerships. Post-secondary education institutions do and are expected to identify ever more closely with the economic life of their state and the nation.[11]

The particular and expanding needs of new student populations, such as working adults and life-long learners, could be served conveniently, effectively, and efficiently through alternative approaches to learning and the delivery of post-secondary education.

The ever increasing sophistication and complexity of work environments and the shifting of employers from a managed to a self-directed work force demand the ongoing acquisition of new skills, as well as the upgrading of previously acquired skills. For some, life-long learning has become a requirement for the continued right to exercise their profession.[12] Mechanization

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[10]For example, recent amendments to Minn. Stat. 141 and Minn. Stat. 136A, relative to program review and coordination mandates to the Minnesota Higher Education Coordinating Board and the requirement to provide placement information on graduates from certain program categories. The federal government's State Postsecondary Review Program (SPRP) legislation tends to fit into this pattern also.

[11]During the last two decades many a university or college began to participate in the development of research parks and industrial innovation centers. One of the best known examples is the "research triangle" in North Carolina.

See also The Chronicle of Higher Education, Report of the Standing Conference of European University Presidents, (September 14, 1994). Page A 67.

[12]One such example is the requirement established by the licensing authorities of most states which require that attorneys attend annually or periodically continuing legal education (CLE) courses as a condition for license renewal and the right to practice.

and computerization continue to make existing forms of work obsolete, forcing individuals to retrain a number of times during their working lifetime, thereby creating a new and substantial additional student population.[13] Life-long learning no longer is only a means for advancement; it has become a necessity to stay competitive in the labor market; to stay in the labor market.[14]

The penetration of the new technologies into everyday life is raising expectations and accelerating the demand for technologically-based learning opportunities.

The availability of new technologies, information systems, and communication networks, and their penetration into everyday life, have altered dramatically the way we live, think, do business, entertain, and interact with others. They are modifying also the way we acquire new knowledge and skills.

Consumer expectations brought about by changes in home- and work-environments are generating a demand for opportunities of technologically-based learning and learning opportunities that accommodate their particular needs. The new consumers of post-secondary education demand learning opportunities that mirror the

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[13]Arthur Levine, Chair, Institute for Educational Management, Harvard University, in Higher Education in Transition, Synthesis, Law and Policy in Higher Education, Volume 5, Number 4, Winter/Spring 1944. As life-long learning becomes a necessity, the student body overall will become older. Substantial numbers of students will be part-time rather than full-time students. Many will study at the sub-degree level. They will take courses specifically suited to their needs or courses geared to the needs of business, industry, or individual professions. Students will demand also programs that lie outside the current traditional program offerings. Many of these students will not be able or disposed to live in residence, and will be more selective as to educational options.

[14]A comparative reading of job descriptions and requirements for employment in help wanted advertisements over time supports this perception.

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convenience, flexibility, and quality that technology has brought to their lives in general. The new consumers of post-secondary education expect also the highest quality of education services they have come to expect in goods and services now provided by the for-profit sector.

To remain responsive to the emerging needs of consumers of post-secondary education, the higher education community must incorporate technological advances into its strategies for the future.[15] It must adapt also the delivery of education services to the lifestyles of working and place-bound adults. Equally important is the need to develop new teaching methodologies and to create new learning opportunities that accommodate the specific needs of new and diverse populations of learners. **Paramount for the success of this process is the establishment of distinct decision structures that support and have as a principal duty to further alternative approaches to learning.**

Distance learning opportunities will evolve as part of the post-secondary education infrastructure because of the demands and expectations of new types of student populations, the perceived needs of the labor market, the opportunities made available by the extraordinary advances in technology, and not least the inadequate financial resources to support, let alone

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[15]The new technologies are not only an issue for alternative or distance education. They are capable of providing significant benefits by enhancing conventional teaching and learning methodologies. Professor Tiffin of the University of Victoria, New Zealand, will publish shortly on this subject, including progress toward development of the "virtual classroom." Correspondence dated August 30, 1994 and signed by David Beattie Professor of Communications, John Tiffin, Victoria University of Wellington, New Zealand, P.O. Box 600, Wellington, New Zealand.

expand, the conventional post-secondary infrastructure.[16]

Minnesota has made significant progress in addressing the incorporation of the new technologies into its post-secondary education infrastructure. The focus has been on the technology of information transmission. What is required now is to focus on program content, learning support processes, and decision structures to facilitate alternative approaches to the delivery of post-secondary education.

Minnesota has a long and deeply-rooted tradition of supporting post-secondary education. The presence of quality post-secondary education in the state has contributed to the high quality of life that Minnesota's residents enjoy. Its high quality education systems have been a major factor also for Minnesota having a highly skilled labor force and a vibrant economy. The state's record of commitment to post-secondary education is documented: the presence of the University of Minnesota at four sites in the state,[17] the establishment of the Minnesota Higher Education Board to administer and coordinate the delivery of post-secondary education of the state universities, community colleges, and technical colleges.[18] A post-secondary education institution is within commuting distance of most residents of the state. The establishment of Metropolitan State University to serve the learning needs of working adults

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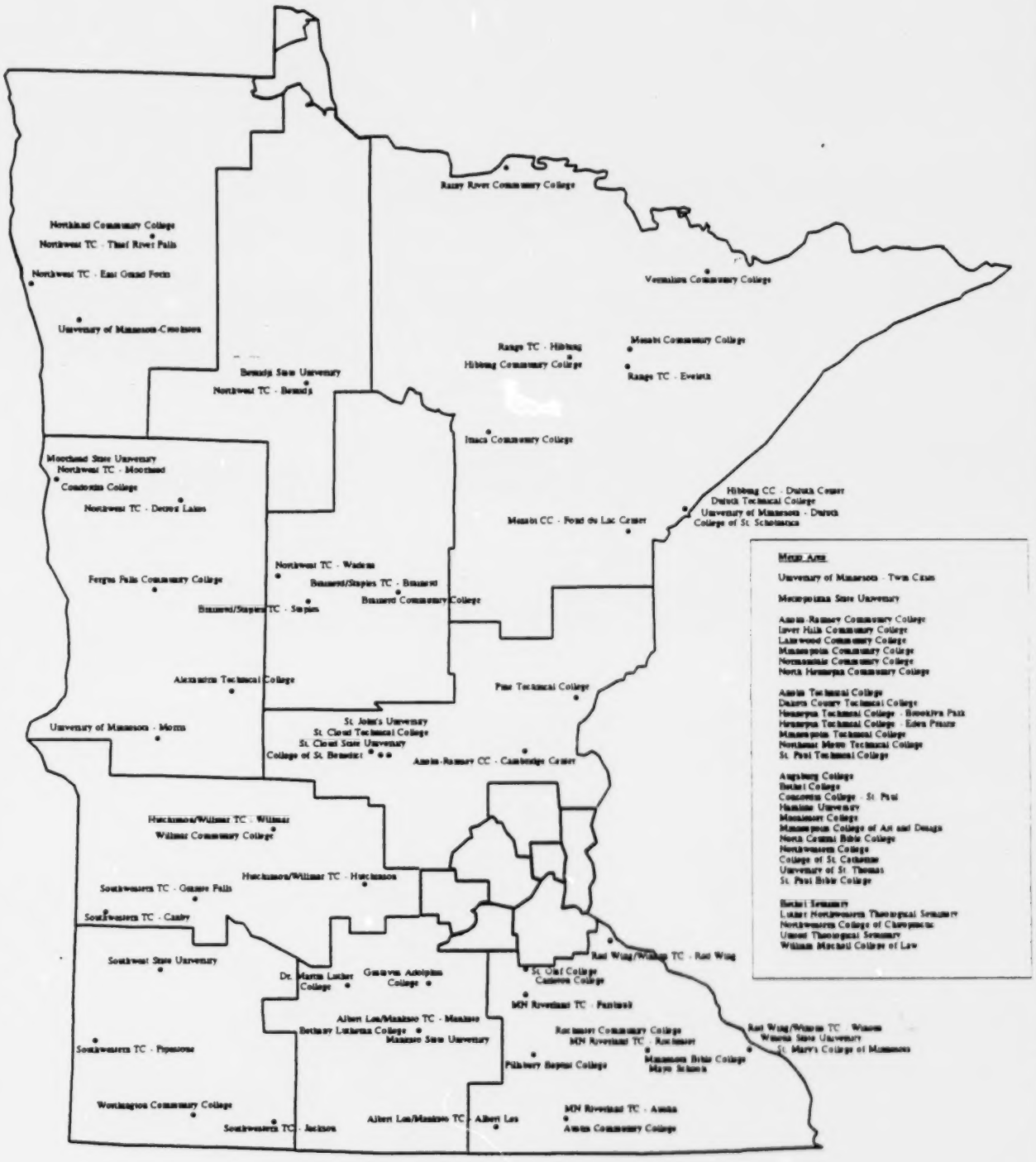
[16]An increasing number of states actually is reducing budgets of colleges and universities while enrollments keep increasing. Oregon is a major example. Washington has announced significant decreases in future funding beginning in 1995.

[17]Minneapolis/Saint Paul, Duluth, Morris, and Crookston.

[18]This amalgamated system, to be fully implemented as of July 1, 1995, has nearly 60 teaching sites strategically located throughout the state. See the map on the next page.

MINNESOTA POST-SECONDARY INSTITUTIONS

(Does Not Include Private Vocational Schools)



Source: Minnesota Higher Education Coordinating Board.

MHECB

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represented a ground-breaking innovation in its time. In addition, Minnesota's student financial assistance programs are exemplary in the nation.

In the 1980s, when the potential of the new technologies for education only began to be suspected, Minnesota initiated action to prepare for their inclusion into the state's education infrastructure.[19] Much has been accomplished. A comprehensive communication network between campuses is already being put in place. Well designed education delivery alternatives could be tools of enormous benefit in Minnesota's efforts to retain its leadership position in education, for its quality of life, the quality of its labor force, and the continued health of its economy.

Until now, the state's focus of attention in considering alternative approaches to the delivery of post-secondary education has been on technology. **The reasons are compelling to embark without delay on the development of decision structures, the establishment of learning support facilities, and the development of programs appropriate for and committed to the realization of alternative delivery of post-secondary education services.**

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[19]These include legislative mandates and policy work undertaken by the Minnesota Higher Education Coordinating Board.

Horizontal enrichment, not vertical replacement: Technology-based alternative post-secondary education will complement, not replace, the conventional classroom- and campus-based education.

Some observers predict that the new technologies will sweep the conventional infrastructure of campus- and classroom-based colleges and universities into history. They predict that post-secondary education as we know it today will be replaced by "electronic universities." Others advise "not to fix what is not broken." They document past and current accomplishments and offer compelling evidence of the continued effectiveness of, and need for, the conventional learning context of classroom and campus.

An analysis of constituencies that have established alternative delivery systems for post-secondary education and operated them over extended periods of time shows that each approach fills a specific need and fills a particular niche in the post-secondary education infrastructure.[20] Based on the evidence, predictions of the obsolescence of conventional colleges and universities and their imminent demise are premature. In the constituencies studied, conventional institutions continue to serve well the purposes for which they were designed, while alternative approaches tend to respond primarily to new important unmet needs and new communities of learners.

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[20]The analysis draws primarily on developments in Asia, Australia, Canada, the United States, and Western Europe.

See also Chapter III.

The arrival of radio and television in the news and entertainment industry provides ready analogies. Radio did not cause the demise of the newspaper, and television did not sweep radio, movie theaters and the live stage into history. They tend to complement each other by serving real and distinct needs of a rapidly evolving and increasingly complex society.

Traditional colleges and universities will continue the necessary and important functions of providing education to a majority of young adults, and of preparing them for initial entry into the world of work. They are suited best for the "socializing"[21] function of the education experience. This socializing function is one of the strengths of the North American post-secondary education environment so admired abroad. It is frequently given as one of the reasons why an American education experience is sought. During the latter part of this

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[21]"Socializing" in this context refers to the totality of the educational influences of the collegial environment. This includes, in addition to formal in-classroom instruction, among others: informal out-of-class discussions among fellow students; informal contacts with professors and staff; such extra-curricular activities as featured speakers, membership or participation in student organizations with educational, social, and political foci; participation in student-sponsored extra-instructional activities; ready access to comprehensive facilities in support of learning, such as libraries, laboratories, museums, galleries, and theaters.

Conventional institutions invest significantly to provide an environment for the comprehensive development of the individual, the total formation of the person early in life which consists both in the development of knowledge and life skills.

On the other hand, various learning support services made possible through the application of the new technologies are proving to be effective learning support tools for large numbers for whom the traditional learning context tends not to be as effective. Among the latter is evidence that technologically re-enforced learning enhances retention of materials studied, and improved progress through the process of self-paced learning.

Also See: Arthur Levine, supra. and Joseph P. Graba, Focus on Learning, MHECB, St. Paul, MN, (August 1992).

century, the United States has become the host country to the largest number of international students compared to any country, positions previously held by Great Britain, France, and Germany.[22]

Just as the conventional classroom- and campus-based approach to education does not appear to serve all of the needs of all learners, alternative technology-based education appears equally not to be appropriate to serve all of the needs of all learners.[23] In the end, however, neither conventional teaching nor alternative approaches to education will remain unaffected one by the other.

Experience in other jurisdictions demonstrates that alternative approaches to the provision of learning contexts can be accomplished cost effectively and efficiently by putting into place dedicated decision and administration structures that are prepared to involve the resources of conventional providers of post-secondary education.

Available resources are insufficient to fund adequately the existing post-secondary infrastructure, let alone to expand it. Growing demands on scarce resources from other programs threaten even to reduce current inadequate allocation levels to post-secondary education. Faced by increased demands on public funds

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[22]The Pursuit of Excellence, Jill Smolowe, Time, (April 13, 1992).

The desirability of an American post-secondary education is made even more significant if one considers that international students must pay tuition fees significantly higher than in-state students and that post-secondary education in other countries is essentially free of tuition. In fact, some countries, such as France, provide financial support to certain international students as a matter of policy.

[23]Becky S. Dunning, Marvin J Van Kekerix, Leon M. Zaborowski, Reaching Learners Through Telecommunications. Jossey-Bass, San Francisco. 1993.

from all areas of post-secondary education and for a variety of other essential services, governments are turning to technology-based delivery of education with the expectation of being able to do the job more cost efficiently. They tend to see in technology-based education a remedy for resolving potentially a number of problems in post-secondary education.

Experience in jurisdictions with alternative post-secondary learning approaches tends to show that it is unrealistic to expect technology-based education to assume the exclusive role for the delivery of post-secondary education by replacing the existing conventional infrastructure.[24] Experience in these jurisdictions has shown also that alternative delivery of post-secondary education is feasible in cost-effective and efficient ways.[25] Governments in these jurisdictions have done so by putting into place solutions that build on and integrate the resources of existing conventional post-secondary institutions.[26]

Experience in these jurisdictions tends to show further

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[24]For example, although the British Open University now enrolls well in excess of 100,000 students, enrollment in conventional institutions continues to tax the limits of their capacity. The Fernuniversität Hagen in Germany has grown to more than 55,000 students in less than 20 years. Yet the demand for admission to the nation's conventional universities is such that quotas (numerus clausus) have been invoked by a number of universities.

[25]The Fernuniversität Hagen, a public distance provider of post-secondary education in the State of Nordrhein-Westfalen and with support sites throughout the German states, and also in Austria, Switzerland and Hungary, provides its education services at from one fourth to one third of the cost of a conventional German university. According to Chancellor Ralf Bartz during an interview in Hagen, Germany, on September 27, 1994, the Fernuniversität educates its approximately 55-60,000 students with a budget of 110 to 130 Million German Marks. Conventional institutions of equal size do so with budgets of from 350 to 450 Million German marks. Recognition of student outcome performance is equal for both approaches.

[26]See Chapter III.

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that, like any form of education, high quality distance education programs produce high quality learning, and poor quality distance education produces poor quality learning. Successful alternative learning approaches suggest that the design, production, and delivery of programs be specifically adapted to its form of delivery and the special needs and requirements of its learners. Experience has shown further that alternative approaches to the delivery of post-secondary education benefit from management systems and assessment tools that are specifically designed to support learning in unconventional contexts. The traditional teaching methods do not appear to work as well.[27]

Alternative education delivery will not develop and succeed by the acts of a single agent or interest. It requires the cooperation and sharing of resources of various partners. Based on the evidence,[28] what it needs to gain momentum and to succeed, is a focus. This focus is a decision structure that is committed to and responsible for its implementation and success.

Alternative approaches to learning suggest an entirely new sense of university or college and its role in society.

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[27]Reaching Learners Through Telecommunications. Op. cit.

[28]For example: the National Institute of Multimedia Education of Japan, the British Open University, the Open Learning Agency in British Columbia, Canada, and the Fernuniversität Hagen in Germany serve as instructive examples. They have built such partnerships. They have brought together resources. They have made existing post-secondary institutions and staff primary participants and resources for their development. The focus in the development of the alternative delivery approaches is on decision-, development-, and support-structures, not on the duplication of resources and expertise. The manner in which the alternative delivery approaches have been implemented, and the manner in which they are administered are, for all practical purposes, complementary rather than subversive relative to conventional colleges and universities.

Conventional institutions do not appear to be positioned to provide the kind of impetus required to implement alternative delivery of post-secondary education services aggressively.[29]

To become reality, an alternative approach needs **one advocate**. It needs an advocate who is in a position to promote, encourage, facilitate, and guide its development. It needs a facilitator who can build the necessary partnerships and who has the skills to assemble the necessary contacts for engaging faculty. It needs a mover who will explore the feasibility of proposals, and bring together the necessary expertise and support to develop them. It needs an advocate who has the authority to make decisions and allocate funds.

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[29]John Verduin, Jr. Thomas A. Clark, Distance Education, The Foundations of Effective Practice. Jossey-Bass, San Francisco. 1991. When the provider of distance education is a dedicated operation, its mission focuses the operation on the provision of distance post-secondary education services only. If the provider does not fulfill this mission, closure will result. When the provider of distance education is a conventional college or university, distinctive characteristics of the operation are that course and program offerings and the delivery technology are generally uniquely designed to meet the specific needs of a narrowly tailored clientele and, at the same time, to fit effectively into the infrastructure of and draw on the available, sometimes surplus, resources of the parent institution.

When the provider is a conventional college or university, the furnisher of distance education tends to be most commonly an operational unit of the college's or university's extension division. The operational unit is induced to design its programs and support services within the framework of the college's or university' priorities. If the operational unit fails to respond adequately to the needs of either, its very existence is at stake. It will either have no students, or it will lose the crucial support of the institution's majority population. Thus the operational unit must serve the needs of its students on whom it depends for enrollments. It must serve also the needs of the college or university on whom it depends for instructors, staff, support services, and equipment and operating funds.

Such symbiotic relationships have advantages and disadvantages. An advantage is that critical needs are met, a specific clientele has access to needed post-secondary education services and the college or university is able to utilize its resources more efficiently. Among the disadvantages are that needs that do not fit into the college's or university's strategic objectives will not be met, and that the needs of the institution may preempt serving important unmet needs of populations within its sphere of service.

CHAPTER II

Chapter II identifies recent and ongoing changes in the composition of the student body. The growing number of students demanding post-secondary education services strains governments' ability to continue to expand the capital- and labor-intensive conventional classroom environments. The disparate needs of new clienteles stemming from the demands of ever more sophisticated labor markets suggest the exploration of the potential of alternative approaches and new pedagogical methods. Technologically supported delivery of post-secondary education services has the potential of an industrial model of production. It is capable of taking advantage of the potential of the new technologies for purposes of distribution of learning materials, communication between instructors and students and among students. The goal is to provide convenient access to affordable post-secondary education services. This goal includes the design and development of high quality courses that can be delivered effectively and efficiently to virtually unlimited numbers of learners and the development of an appropriate pedagogy.

TEACHING AND OPEN LEARNING
TAILORED SOLUTIONS FOR AFFORDABLE, STUDENT-CENTERED EDUCATION

Societal demands for knowledge and skills to enter and stay competitive in the modern labor market have become a major force in reshaping post-secondary education worldwide.

Practical considerations of societal demand have become a major force in reshaping post-secondary education worldwide. The most evident and most pervasive pressures for change emanate from the growing sophistication of national economies, the labor market, and the ability of governments and students to pay. Having completed a post-secondary education program is an important consideration in securing a good job, maintaining one's position in the labor market, and/or qualifying for promotions. In addition, the need to update knowledge and refresh skills continues to swell the ranks of those demanding convenient access to affordable post-secondary education.

The mix of learners is changing from a dominant campus-bound 18-24 year old full-time student body, to one where now already nearly half consists of part-time students, life-long learners, and working individuals with just-in-time needs for post-secondary education.[30] For the latter group, the conventional classroom environment frequently is not the optimal solution. This group requires learning materials and learning methodologies more suitable to its experience, and work- and life-styles.[31]

The increasing demand for post-secondary education in times of severe financial constraints and competing demands for government funds encourages the search for alternatives to the capital- and labor-intensive conventional classroom.

For centuries, the dominant pedagogical method of a conventional classroom in a collegial campus setting[32] has prepared millions of young adults successfully for life and for the world of work. In the middle of this century, ever larger numbers of young adults sought admission to the nation's colleges and universities. The dramatic increase resulted first from the

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[30]This evolution can be traced through the Minnesota Higher Education Coordinating Board's annual publication DATA SERIES. Also refer to Arthur Levine, Chair, Institute for Educational Management, Harvard University, in Higher Education in Transition, Synthesis, Law and Policy in Higher Education, Volume 5, Number 4, Winter/Spring 1994. "The growth in higher education during the eighties was over 89 percent older students."

[31]Ibid.

Also see Reaching Learners Through Telecommunications. Op. cit.

[32]"Conventional classroom," for this report, refers to the face-to-face instruction essentially based on the socratic method and situated in a collegial campus setting where learning is enhanced through peer interaction, frequent contact with instructors, and surrounded by such learning support structures as libraries, laboratories, and extra-curricular lectures and cultural activities.

natural increase of college-age individuals of the "Baby- Boom" and then from the democratization of access to post-secondary education. The demand has increased to a point where it is stretching governments' ability to continue to increase funding for this capital- and labor-intensive model.

Simultaneously, new and diverse populations for whom a campus is not readily accessible, more specifically those whose work- and life-styles do not make attendance in conventional classroom settings convenient or even possible, demand equal opportunities of access to post-secondary education.[33] For increasing numbers, life-long learning is becoming a necessity rather than a choice to maintain professional competence and qualification,[34] or even to stay in the labor market. For most of these learners, the conventional classroom, academic calendars, and traditional pedagogical methodologies are not the most appropriate or most effective.[35]

A significant external inducement for the search of cost efficient and effective approaches is that governments are faced

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[33]Reaching Learners Through Telecommunications. Op. cit.

These conclusions could be drawn also from various segments of studies performed in support of the Minnesota Higher Education Coordinating Board's M SPAN 2000 study.

[34]Higher Education and the Labor Market. Op. cit.

[35]"Older individuals, especially those who have been in the labor force, tend not to be interested in the kind of relationship with a college or university younger students have traditionally had. They tend to favor the same kind of relationship they have with other providers of services. First they want service, then they want convenient access, they want flexibility, they want value for their money, and they want affordable prices. They tend to have little institutional loyalty, and they are not interested in the lure of campus life." A. Levine, supra.

with revenue constraints and multiple growing demands for funds from a variety of new and expanding programs across the board. Governments find that, with tax base limitation, they are unable to continue to expand funding to meet the growing demand for post-secondary education. They have begun to explore the potential the new technologies offer. Some legislators and educators see great promise for the development of alternative delivery systems capable of serving large numbers of learners over great distances. There is also the expectation that technology-based alternative approaches will be able to deliver post-secondary education more cost-efficiently.

A number of states, including Minnesota, have a long tradition of providing alternative learning opportunities through extension education to distant learners. Distance education has always had some form of a technological base: print, the mail, the telephone, and over-the-road travel by instructors to alternative teaching sites. These have been the main modes of delivery. Correspondence and some form of face-to-face instruction modelled on the conventional classroom mode have been the primary pedagogical methods. In recent years, a number of institutions have begun to experiment aggressively with the new technologies.[36]

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[36]For example, the Minnesota Technical College System has done much in using television as a means of delivering courses to various campuses and of staging multi-campus classes. The University of Minnesota is an active participant in the work of the National Technological University, headquartered in Greely, Colorado.

Although distance education has a long tradition, the new technologies are making available elements the combination of which suggests the imminence of major breakthroughs for the delivery of post-secondary education materials, the provision of learning contexts, and the development of methodologies to accommodate the needs of a wide range of new and diverse learners.

Recent technological change has had a dramatic impact on the expansion of - and methods used for - the delivery of distance education. All indications point to more dramatic potential during the immediate future. Research and experimentation of the potential of various new technologies and methodologies adapted to their most effective use are in the early stages.[37] Just as, in a historical perspective, it was the case with major breakthroughs,[38] the conditions and the time are ripe, and the right elements are coming into place for distance education to take a major developmental leap: multimedia with a single interface, that is, the computer and CD-ROM; flexible means for communication, that is, the mail, phone, E-mail, radio, computers, and interactive television; and user-friendly interfacing between learner and machine, that is, the power and portability of the notebook computer. The breakthrough will

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[37]Some of the more progressive work in this direction is being undertaken by the Institute for Multimedia Education in Japan and the Open Learning Agency of British Columbia, Canada.

[38]In order for technology to make a significant breakthrough, two conditions must be met in addition to the time being ripe: a number of critical elements have to be in place, and all of the elements have to be there. Peter Senge in the book, The Fifth Discipline (1990) provides an instructive analogy. Until the DC-3 was built, commercial flying was not economically feasible. The DC-3 combined for the first time five different critical technological developments in its design: a monocoque fuselage; a variable-pitch propeller, a retractable landing gear, wing-flaps, and a radial-cooled engine. All elements were necessary for commercial service, any four were insufficient. Source identified in The Future of Distance Education in Canada: Opportunities and Challenges. Op. cit. in footnote 42.

occur when the various technologies are integrated successfully into the delivery process of post-secondary education.

In historical perspective, a major hurdle is man's inability to make paradigm shifts.[39] New tools continue to be used in traditional ways. Such behavior does not promote the fullest exploitation of these tools' potential. Putting a professor before a television camera to deliver a lecture to a number of remote sites does not take advantage of the full potential of multimedia technology. It preserves the rigidity of the conventional classroom in concepts of time and place. It does not favor individualization which is perceived as one of the major advantages of distance education.

Distance post-secondary education is the fastest-growing alternative instructional pattern in the world.

The combination of a number of factors are making distance learning the fastest-growing alternative instructional pattern in the world.[40] Among the factors driving this rapid growth are:

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[39]Joseph Barker. Futurist. Minneapolis, Minnesota.

[40]Report on Multimedia Education, 66 E, February, 1994, Distance Education in Asia and the Pacific (Revised Edition 1994).

Although the University of South Africa, established in 1951, was one of the first open universities, the turning point stimulating the rapid development of distance education coincided with creation of the Open University of Great Britain in 1969. Building upon the work of Daniel Granger, Open Universities, Closing the Distances to Learning, Change, June/August 1990, a list of subsequent development follows:

1969 British Open University

1972 Universidad Nacional de Educacion, Spain
1974 Fernuniversität Hagen, Germany
1974 Open University of Israel
1975 Allama Iqbal Open University, Pakistan

massive demand for convenient, accessible, and affordable post-secondary education; fiscal constraints; the need for an environment conducive to a wider range of learners; the development of alternative pedagogical approaches to accommodate diverse learning styles; and the potential created by the availability of a rich mix of technologies which are now being exploited by such providers of post-secondary education as the National Institute of Multimedia Education in conjunction with the University of the Air in Japan, the Open Learning Agency in Canada, and the proposed Global Learning Network in Switzerland.

1977 Athabasca University, Canada
1977 Universidad Nacional Abierta, Venezuela
1978 Sukhotnai Thammathirat Open University, Thailand
1978 Central Radio and Television University, China
Hunan Radio and Television University, Hunan, China
1978 National Institute of Multimedia Education, Japan
This is a research and development agency that works in close association with the University of the Air of Japan (see below) and coordinates with any public and private university that wishes to participate.
1970s
Téléuniversité du Québec
National Open School India
The South African Institute for Distance Education

1981 Open University of Sri Lanka
1981 Open Universiteit, Holland
1981 Andra Pradesh Open University, India
1982 Korean Air & Correspondence University
1983 University of the Air of Japan
1984 Universitas Terbuka, Indonesia
1986 Indira Gandhi National Open University, India
1986 National Open University of Taiwan
1986 Al-Quds Open University, Jordan
1988 Universidade Aberta, Portugal
1988 Open Learning Agency, Canada

1990s
Open University of Bangladesh
Open Learning Institute, Hong Kong
Korea Air & Correspondence University, Seoul, Korea
Proposed
Open University of Poland
Open University of France
Global Learning Network, Switzerland (this proposed project will be described in more detail in Chapter III).

The primary rationale for the provision of distance education opportunities no longer is distance itself, it is convenience and flexibility. The rationale has shifted to making available post-secondary education in a format capable to serve large numbers of learners with diverse learning needs and requirements effectively, and cost-efficiently.

The rationale for providing post-secondary distance education services originally was the most obvious, to bridge geographic distance. Distance education was the only way for place-bound individuals to have access to post-secondary education at all. For others, it was the only way to have access to a wider range of services not readily accessible closer to home. For again others, it made post-secondary education accessible when work- and life-styles made conventional classroom attendance impossible, impracticable, or unattractive.[41]

Geographic distance, however, is no longer the primary factor for students making use of distance education opportunities. Students living at a distance from the provision of conventional post-secondary education services have actually become a minority of those who use distance education. The majority of distance education students live within what is considered to be a reasonable commuting distance from a post-secondary institution. More than half actually live in urban areas within easy reach of a post-secondary education

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[41]For example, beginning in the mid-1980s, a sequence of courses to provide professional development opportunities for registered nurses to work toward a baccalaureate degree in Nursing was diffused over Atlantic TV, a commercial network, during donated hours throughout a sparsely populated region of Eastern Canada where working nurses did not have ready access to post-secondary education institutions. Due to irregular and shifting working hours, program participants could videotape the programs. The response was overwhelming both from rural and metropolitan areas.

institution.[42]

There are clearly other reasons than distance which drive increasing numbers of students to make use of distance education opportunities - flexibility and the potential for tailoring the learning process to individual needs and circumstances.

There are clearly other reasons than distance which drive increasing numbers of students to make use of distance education opportunities. It is the inherent potential for greater flexibility and individualization of the learning process that distance education makes available which is so attractive to especially older, working, experienced and mature students. For them, the conventional campus environment is less appealing from life-style, convenience, and methodological perspectives.[43]

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[42]A.W. Bates, The Future of Distance Education in Canada: Opportunities and Challenges. From a manuscript submitted to the Journal of Distance Education's 10th anniversary issue for 1993. Mr. Bates is Executive Director, Research and Strategic Planning, The Open Learning Agency (OLA), British Columbia, Canada. Prior to his joining OLA, Mr. Bates was a major player in the development and success of the Open University of Great Britain.

Such participation patterns have been corroborated in conversations with administrators of a number of distance institutions and in the Report on Multimedia Education, 66 February 1994, Distance Education in Asia and the Pacific (Revised Edition), Chiba Japan. See the reference to Hong Kong. The same applies to the student populations of the Open University of Great Britain and the Fernuniversität Hagen, Germany.

In Norway, where access to one of the four universities is very restrictive, individuals use distance education as an alternative entrance point.

[43]Arthur Levine in Synthesis, op. cit., stated that in a study of college students around the country, he found older students of particular interest. "They don't want the kind of relationship with institutions younger students have had. They want the same kind of relationship with higher education that they have with their bank." He goes on to analogize the relationship to his own expectations: "I want ATM's on every corner; I want no line when I get to the ATM; I want immediate parking right next to the ATM. Also, when my check comes in, I want the bank to deposit it immediately, if not the day before; and I want no mistakes except in my favor. **I don't want my bank arranging softball games for me, holding religious services, or picnics for my family. I can get that elsewhere.**" (Emphasis added).

Throughout the world, distance learning is becoming an important part of governmental strategies to educate large numbers of individuals conveniently, rapidly and efficiently.

Throughout the world, governments are inserting distance education into their post-secondary infrastructure as an important part of national strategies to educate large numbers conveniently, rapidly, and efficiently.[44] The motivation for this global development is both social and economic. It is to meet increasing and new demands for post-secondary education. It is in an effort to find more cost-efficient ways to provide for post-secondary education. Many nations, advanced as well as developing, also have recognized the need for widespread access to education that is effective, efficient, and convenient, in order to further their competitiveness in the international market place.[45] Distance education delivery formats offer attractive models. Educators are finding also that the environment of distance learning not only may be efficient for outreach to new populations, but that it offers also an effective medium to explore and develop new instructional methods.[46]

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[44]See J. Boon, footnote 9.

[45]Ibid.

[46]1993-1994 Annual Report, National Institute of Multimedia Education, Chiba, Japan.

Professor Tiffin of the University of Victoria, New Zealand is doing pioneer work in this area. A major publication of his research is scheduled for release early next year. See footnote 15.

The conventional classroom, both in structure and format, is seen increasingly as only one of a number of effective instructional options.

The conventional classroom remains for many the standard by which effective post-secondary education delivery is judged,[47] Researchers and practitioners, however, are demonstrating that there is more than one effective approach to learning.[48] The results of experimentation tend to show that the conventional classroom-based pedagogical methods may not be the most appropriate for the distance learning environment and the new student populations.[49] Some propose that the traditional classroom pedagogy is not conducive to exploit fully the potential of the environmental advantages of distance education and the new technologies that support it. They propose also that the conventional pedagogy does not provide the right stimuli for the type of clientele and the numbers of learners to be served.[50]

The conventional classroom, in both structure and format, is seen increasingly as only one of a number of effective instructional options. In the delivery of post-secondary education, the new technologies provide approaches and contexts

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[47]For example, a number of accreditation processes require classroom instruction as a basic component. The same applies for credit requirements. See also Chapter IV.

[48]This proposition is supported also by the outcome-based assessment movement that is currently gaining widespread acceptance in the education community and is reenforced by the experiences of the open universities.

[49]Ibid.

[50]National Institute of Multimedia Education's Annual Report. Op. cit.

See also Joseph Graba, Focus on Learning, MHECB, St. Paul, MN, August 1992, and Reaching Learners Through Telecommunications. Op.cit.

that adapt more readily to the diversity among learning styles and learners when content and form complement and support each other.

Using the conventional classroom as the instructional model for distance education will not bring about the sought for efficiencies of scale and reduced costs - it adds the expense of production, transmission, communication, and the provision of support services at a distance.

Some distance education providers remain fixed on the classroom as the best instructional model. They use technology primarily to transport conventional classroom experience to remote locations. In that process, distance learning follows the same pattern as the traditional classroom model.[51] This process achieves some economies of scale since it can serve larger numbers of students simultaneously. The costs, however, are generally the same as for conventional classroom education. In addition, there is the further expense of transporting the classroom environment to new locations, and the added cost of communication.

Technologically supported delivery of post-secondary education services has the capabilities of an industrial model of production by taking advantage of the potential modern technologies have to offer.

Essentially, technologically supported post-secondary

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[51]This is the process of the Minnesota Technical College system and the National Technological University.

Staff opinion of distance education providers tends to place practical limits to the number of sites and size of the TV classroom lecture approach, especially when inter-activity is involved. The instructor's focus on the content tends to be affected by the need to manage the communications aspect.

education has the capabilities of an industrial model of production by taking advantage of the potential modern technologies have to offer. The objective is to design and develop high quality courses that can be delivered conveniently, effectively, and efficiently to hundreds or even thousands of learners.

Students are not learning machines. They are not uniform in their ability and disposition to learn. A pedagogical method, to be effective in such an industrial model, must provide for differences in learning needs and learning personalities.[52] A number of innovative providers of distance education have begun to explore ways to meet this objective of individualization. They approach the matter by designing alternative instructional materials that take advantage of existing traditional post-secondary education resources and by integrating them with the new technologies. They are searching for methods less bound by time and place constraints. The focus of design and execution is to be supportive of independent learning or open learning.[53] Open learning is a term to describe a more flexible, learner-driven pedagogy.

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[52]Focus on Learning. Op.cit.

[53]The Open Learning Agency of British Columbia, Canada, and the National Institute of Multimedia Education, Japan, are on the cutting edge of this concept. See also The Future of Distance Education in Canada: Opportunities and Challenges. Op. cit.

Probably the most significant characteristic of open learning through distance education is not so much the use of technology, but the fact that its organizing principle is the needs of the learner.

Open learning is not so much a distinct field of education in its own right, as it is but one methodology in an increasingly diverse post-secondary education infrastructure. Probably the most significant characteristic of open learning is not the use of technology, but the fact that its organizing principle is the needs of the learner, that whatever the inherent demands of the content, it must be made accessible to the learner by creating the proper context, atmosphere, and support structure. Instructional materials and pedagogical methodologies are tailored to the subject matter and circumstances.

Recognizing that knowledge does not exist apart from every day experience, open learning in the distance education context is capable of establishing connections between learning and students' working - and personal - life experiences. Linking course materials as much as possible to a student's life context enhances, intensifies, and integrates new learning and new skills.[54] While the conventional classroom simulates these experiences, a student engaged in open learning through distance education has the opportunity to translate these linkages into

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[54]City University of Bellevue, Washington, which offers distance learning to about 20 percent of its registrants, uses this approach. For example, in its MBA program, it uses the case method. But instead of using prepared cases, students carve a case scenario out of their work environment. The problems are current, and solutions can be applied and assessed during the study process.

See also Open Universities, Closing the Distances to Learning. Op. cit.

reality. Essential to the implementation this process is to provide students with a range of learning modes which are supportive of their work- and life-styles, their experience, and which are capable of taking into account prior knowledge and skills. Properly structured, distance in learning can become a distinct advantage.[55]

[55]Open Universities, Closing the Distances to Learning. Op. cit.

CHAPTER III

Chapter III describes some alternative approaches to the delivery of post-secondary education. It traces the evolution of distance or open universities and, in sifting through the information, finds a number of common traits and distinctive patterns. These traits and patterns suggested the development of *two stylized models*, distance learning as a technologically replicated conventional classroom environment and open universities. The publication of a plan for the establishment of the Global Learning Network in Switzerland points the direction of the next generation of post-secondary education providers.[56]

DISTANCE EDUCATION AND OPEN LEARNING
A Review of Developments
and
A Stylized Categorization of Models

From correspondence, home, and independent study to open learning.

Post-secondary distance education has been available in the United States since the late 1800s. Until about 25 years ago, it consisted primarily of correspondence study, home study, and independent study. Courses offered tended to be targeted to personal enrichment and basic skills training. Courses for credit tended to be limited to the undergraduate level. With few exceptions, few complete degree programs were available. They tended to be concentrated in the liberal arts, social studies, and business/management areas. Today, many public and private colleges and universities offer some form of distance

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[56]Publications of interest obtained in the course of the preparation of this report will serve as a basis for the preparation of abstracts, such as: on the European Economic Community's one hundred million dollar DELTA project, Distance Education in Asia and the Pacific (a massive, very detailed inventory ranging from public policy issues to program listings, technologies in use, and future directions), a report on the National Institute of Multimedia Education 1993-1994, among others.

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education.[57]

In the United States, distance education generally has not enjoyed the same standing as conventional study. Credits earned through distance study at times cannot be applied toward earning a degree.

The establishment of the Open University of Great Britain in 1969 marked the beginning of a process to establish distance education and open learning as legitimate approaches for post-secondary education.

In 1969 The Government of Great Britain chartered the Open University. It marked a turning point for post-secondary education at a distance. The government charged the Open University with the mission to find ways to open up post-secondary education services to all the people.

In implementing its mission, the Open University broke with a number of conventions. It admits anyone who can benefit from a post-secondary education. The Open University built an operations center, not a campus. Instead of welcoming students to the university, the University took the education process to the students. It transformed the whole country into its campus. The Open University shifted the emphasis from instructor-centered teaching to student-centered learning.

For the first time, it became feasible and practical for an entire class of individuals, for whom it had previously not been possible, to pursue post-secondary studies. Individuals could

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[57]In Minnesota, for example, Bemidji State University has been offering some full degree programs through correspondence study.

pursue post-secondary studies without having to modify drastically their life- and work-styles. They could do it without having to give up their jobs or careers.

While some saw in the Open University the wave of the future, others viewed it with skepticism, as an expensive experiment bound to fail. For the latter, post-secondary education was not limited to the expansion and transmission of knowledge through research and teaching. It was as well the development of the whole person that, for them, could flourish only in a community of scholars surrounded by a supportive campus environment. They perceived the Open University as an assault on the quality and integrity of post-secondary education.

During the early years, graduates and students of the Open University had to cope with a lack of acceptance by the post-secondary education community and, to a lesser degree, by the labor market. Over the years, however, as the number of enrolled students grew and graduates proved themselves in further studies at the country's conventional universities and in the market place, skepticism turned into acceptance. Today, the Open University enrolls well over 100,000 students, more than any other university in Great Britain. Its graduates occupy prestigious positions in government, industry, and in the academic community. The Open University is fulfilling its mandate and provides quality education with a budget at a lower average per student cost than the country's conventional universities.

Distance education and open learning, approaches that accommodate the work- and life-styles of large segments of modern society.

Distance education and open learning were an idea whose time had come, not only in Great Britain, but also in the rest of the world. During the decade immediately following the Open University's founding, nine open universities were established: two more in Europe, one in Canada, one in the Near East, one in South America, and four in Asia.[58] Eleven more followed in the 1980s: two more open universities in Europe, one more in Canada, seven in Asia, and one in the Near East. By 1992, 22 of the open universities that had been operating for more than 4 years enrolled a combined student body of more than two million individuals. A number of additional distance and open learning institutions have been established in the early years of the present decade, India now has five, and several others were being planned, one each in Poland, Bangladesh, Switzerland, and France.

A substantial effort is taking shape also in Africa. Phase one, establishing a Multi-Channel Learning Base for 13 countries of Eastern and Southern Africa, has been launched. Preliminary planning was carried out by UNESCO in cooperation with the region's 13 participating states. The overall objective is to assist African states to strengthen their national capacities to set up and efficiently run educational systems which include the use of distance education modes and multi-channel approaches.[59]

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[58]For a specific listing, see footnote 40.

[59]ICDE information flyer. See footnote 60.

Distance education and open learning are filling a void in the post-secondary education infrastructure by primarily serving unmet needs of new student populations. Distance education complements, it does not diminish the importance of conventional colleges and universities.

Distance education and open learning have established themselves as a legitimate approach to provide quality post-secondary education. Distance education and open learning are filling a void in the post-secondary education infrastructure by primarily serving unmet needs of new student populations. In jurisdictions where distance education and open learning have reached already a substantial degree of maturity, it complements the work of conventional colleges and universities. In these jurisdictions enrollments in conventional post-secondary institutions continue to increase.

Distance education and open learning have come a long way since 1969. It is no longer limited to a number of maverick efforts. Internationally, regionally, and nationally, those involved in distance education and open learning have organized their own professional and institutional support structures.[60]

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[60]The most active and most visible among them is the International Council for Distance Education (ICDE). It is the only world association for open and distance learning. It is officially affiliated with UNESCO and cooperates closely with the United Nations.

The European Distance Education Network (EDEN)
The Association of Asian Open Universities (AAOU)
The Open and Distance Learning Association of Australia (ODLAA)
The Distance Education Association of Southern Africa (DEASA)
The West African Association of Distance Education
The Canadian Association for Distance Education (CADE)
The United States Distance Learning Council (USDLC)
The Latin American Network for Development in Distance Education (REDLAED)
The Conseil régional de l'enseignement à distance CREAD, The Americas
ATENA, France
Norwegian Association for Distance Education (NADE)

They provide important services. They promote research in support of distance education and open learning. They exchange findings. They assist members with advocacy. They organize meetings, workshops, and seminars. They serve as clearinghouses[61] and as coordinators for consortia, and they assist with funding activities. Above all, they provide peer support.

Innovation in post-secondary education is easy to discuss, but difficult to practice.

Since the founding of the Open University, an enormous amount has been written about distance education and open learning. In the United States, much of the literature focuses on the potential the new technologies might have to offer and what the campus of the future might look like. Another significant amount of the literature reports on relatively small, highly visible and interesting individual experiments. Unlike

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Distance Education Association of New Zealand (DEANZ)

These distance education and open university associations should not be confused with the more clamorous and more visible associations which focus on the new technologies in education. The former have a much broader area of interest covering the entire spectrum of education from theory to practice, while the latter focus primarily on the use of technology in education.

[61]The National Institute for Multimedia, Chiba, Japan has performed a very valuable service. It has prepared and published a **comprehensive** inventory of **all** distance learning activities in Asia and Australia. The inventory covers for each jurisdiction the history of development, policies, structures, technologies in use, planned future directions, and, for each institution, the programs offered. Report on Multimedia Education, 66, February 1994, Distance Education in Asia and The Pacific (Revised Edition 1994), Chiba, Japan.

The International Council for Distance Education(ICDE) promotes the development of similar inventories for all world regions.

for Asia and Australia,[62] no comprehensive inventory of distance education and open learning has been prepared as yet for the United States. The prevalence of articles on technology in distance education and the focus on a large number of high-technology experiments appear to create an impression of a massiveness of development that is greater than reality. Research into pedagogical and methodological issues in support of distance education and open learning is in the early stages.[63]

The pages that follow provide a classification of distance education providers into two broad categories. Each category describes by means of a **stylized model** distinctive aspects as to how providers within that category deliver their services. The descriptions include reflections of individuals directly involved with the administration and provision of distance education and open learning. The reflections include comments on advantages and disadvantages as they perceive them.

The current state of distance education and open learning in the United States is a rich mosaic of experimentation.

A substantial number of public and private colleges and universities have entered the distance education and open learning markets in the United States. The number appears to be

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[62]See Distance Education in Asia and The Pacific. Op. cit.

[63]Two well funded, comprehensive, and coherent research efforts are: the National Institute for Multimedia Education of Japan and the Delta Janus Project of the European Economic Community. The Institute's primary mission is research in support of distance education and the facilitation of coordination of distance education providers. The Delta Janus Project of the European Economic Union is a 100 million four-year project to explore and develop cooperative development of distance education using the new technologies.

growing. It is a rich mosaic of experimentation.[64] Some of the colleges and universities are developing their own distance education capacities, while others combine their efforts in cooperative ventures or work within consortia.[65] The medium of transmission ranges from correspondence by mail to interactive television, to attempts to develop "virtual classrooms."[66]

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[64]Despite the broad interest in and aggressive development of distance education and open learning, it is still faced with some skepticism and non-acceptance from a significant segment of the post-secondary education community. The lack of acceptance is especially evident relative to dedicated distance education providers. That is, providers whose sole mission is to provide education services at a distance. At present, in most instances in the United States, they are single faculty or single discipline providers. The experience with the state registration and approval processes of the Graduate School of America and Walden University are two Minnesota examples on point.

Part of the skepticism may be attributed to the fact that dedicated distance providers of post-secondary education services lack most of the indicia of conventional colleges and universities, such as: a campus setting, structured classes, formal laboratory settings, walk-in libraries, fixed academic calendars, and face-to-face interaction with full-time faculty, and in some instances a reduced emphasis on in-house research. A further issue may be that they are frequently single or limited discipline institutions.

[65]The University of Minnesota's participation in the National Technological University is an example of the latter.

[66] A "virtual classroom" is a sophisticated technologically supported learning environment. Students follow an instructor's technologically reproduced lecture and/or engage in socratic dialogue using a variety of media. In addition, they experience or even participate in an event or experiment through comprehensive sensory perception. They can see, hear, feel, touch, and smell the "subject matter."

Professor Tiffin of the University of Victoria, New Zealand, and a Japanese Laboratory are involved in research and development efforts for virtual classrooms. The first experimental elements will be in place within the next two years. An operational model is scheduled to be ready by the turn of the century. Professor Tiffin at the ICDE sponsored meeting of heads of distance education institutions in Saratoga Springs, New York. October 1994.

It is not always easy to make a clear distinction as to where conventional education stops and distance education proper starts. Some of the more sophisticated technologically supported experiments explore powerful tools to enrich the learning experience, such as virtual classrooms. That, however, is not necessarily distance education.

The situation is reminiscent of the early part of this century at the height of the development of the automobile. A great number of designers and builders produced a large number of car models. The situation sorted itself out until today there are only a handful that dominate the market to provide

Unlike European and Asian jurisdictions, in the United States no single distance education provider has emerged to dominate the market. With the exception of Canada[67] and India, the countries where dedicated distance education and open learning providers are firmly established, each jurisdiction has one comprehensive dedicated provider to serve the national market.[68]

In sifting through the data, a number of common traits and distinctive patterns suggested treatment of alternative education providers in two broad model categories. Distance learning as a technologically replicated conventional teaching environment and open universities.

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transportation. A similar path of development might be expected for the future development of transmission technology for distance education and open learning. Almost every provider is developing a model with a particular appeal. Ultimately a few will emerge to carry the market.

[67]Canada has two distance education institutions in the adjoining provinces British Columbia and Alberta. In Canada, education is, as a matter of the British North America Act (Canada's Constitution), a provincial matter.

In Germany too, education is a matter of the states. There, however, the distance university established by the state of Nordrhein Westfalen, the Fernuniversität Hagen, serves the residents of all the German states. In addition, the University serves students in Austria, Hungary, and Switzerland. Learning support sites are financially supported by the individual states in which the sites are located. Learning support sites are located also in the named countries.

[68]Some of these open universities are beginning to reach beyond the national borders to serve the international market. So for example, the Fernuniversität Hagen arranges for student support centers wherever a critical mass warrants. The university now operates support centers in Austria, Switzerland, and Hungary. Additional centers are under consideration.

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1. **Distance learning as a technologically replicated conventional teaching environment.**

This model replicates the conventional classroom environment using the new technologies. It is the primary mode of conventional colleges and universities to enter the distance education market. In its simplest form, an instructor lectures before a camera and/or microphone in an electronically furbished master classroom to one or more receive sites. Students are assembled in a classroom environment. The master classroom may or may not have students present during the lecture. The lecture may be one-way visual or one-way voice only, two-way voice only, one-way visual with interactive voice, or two-way interactive visual and voice. Transmission technology consists of one or a mix of equipment, such as computers, video cameras, monitors, telephones, radios, cassettes, and compact discs. The lecture is transmitted over airwaves, cable, microwave, fiber optic cable, phone lines, or satellite up- and down-links.

The one-way voice or one-way video only lecture replicates the large lecture hall of the conventional college or university. It has the advantage of reaching practically unlimited numbers of students. It is ideally suited to expose large numbers of students to eminent authorities in a given field, experiences many students might otherwise not have. It has the potential to produce substantial savings over traditional large lectures by achieving economies of scale, the cost ratio of the instructor to the number of students reached. The one-way broadcast lecture is also well suited to share faculty expertise among institutions,

thereby achieving additional efficiencies through cost sharing. Because there is no interactivity, a recorded lecture can be repeated equally as effectively a number of times. A recorded lecture increases efficiency through flexibility. It frees students from time and space constraints. It can assist to alleviate a significant issue in today's post-secondary education delivery mechanisms, the course schedule conflict, which has been identified as a significant factor in prolonging the time to degree completion. This has been a major cost concern of state governments.[69]

The one-way technologically assisted lecture has the potential to improve over the traditional lecture. It provides opportunities to enrich the teaching process by programming highly sophisticated multimedia demonstrative material. It shares with the large lecture hall the disadvantage that it does not allow on-the-spot dialogue between the instructor and students. There is, however, a growing recognition, that instant interaction is not the only way to engage in dialogue. Modern technologies offer opportunities to engage in dialogue with the instructor and with other students through the use of E-mail and the telephone.

The one-way video two-way voice and two-way video two-way

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[69]An example of this model familiar to Minnesotans is the University of Minnesota's participation in the National Technological University's program.

Amongst the largest models of this nature are the Central Radio and Television University of China, which has served in excess of 1,8 million students since its inception, and the University of the Air of Japan. Distance Education in Asia and the Pacific. Op. cit.

voice teaching contexts replicate the conventional classroom, seminar, and feasibly laboratory experiences. While the one-way video and voice transmission requires relatively simple receive sites, a room with a large screen and loudspeaker or strategically placed televisions, the interactive teaching arrangement requires more sophisticated receive sites. These receive sites must be equipped to exchange signals with the master classroom. The master classroom in turn must be equipped to manage convenient switching of signals between the master classroom and the sites, and among sites in order to facilitate dialogue.

The interactive technologically assisted lecture has the advantage of dialogue between the instructor and students and among students. And, like the one-way large lecture transmission, it makes it possible to program highly sophisticated multimedia demonstrative material into the transmission. One of the most significant advantages of the technologically assisted interactive teaching context is, that it can provide access in geographic areas where there otherwise would be none. It is capable of reaching into all areas of a state or region, and it makes it possible to offer courses that might otherwise not be economically viable because it is capable of achieving a critical mass of students by assembling several sites within a large geographic area. It makes it possible to offer a broader range of programs that would otherwise be prohibitively expensive to be offered by several institutions,

because they are expensive to develop and maintain. For both the one-way and the interactive technologically assisted conventional teaching, the level of sophistication that can be achieved through the mix of technologies and methodologies is limited only by imagination and available funds.

Another advantage is, that technologically assisted conventional teaching enjoys a higher level of acceptance by the academic community than other forms of distance education. This higher level of acceptance is attributed to its similarity to conventional teaching, with which faculty are familiar and comfortable. The same general teaching methodologies and processes are used and the same assessment methodologies are effective. Although faculty training to exploit the advantages technologies have to offer could enhance further its effectiveness, it is not as critical an issue as it is for the more dramatically different approach to distance education used by the open universities. Providing student support services is facilitated also because students are concentrated at receive sites, and receive sites are commonly located at some type of educational facility.

The most significant disadvantage of the interactive teaching context is the natural limit at which an instructor is able to handle effectively socratic dialogue.[70] Experience tends to indicate also, that the attention required to administer to the technical requirements, such as switching to facilitate

[70]It shares this disadvantage with the conventional classroom.

dialogue, affects the concentration and effectiveness of the instructor.[71] Given the natural limit for class size in which dialogue is perceived to be effective, and depending on the number of teaching sites participating in an interactive course, cost efficiencies over conventional classroom teaching are generally not realized in technologically assisted teaching at a distance.

Technologically assisted interactive teaching incurs the expenses of the conventional classroom and, in addition, it incurs the expenses of signal transmission and multiple receive sites, as well as the provision of support services at a distance. It has no significant pedagogical advantage and no cost advantage when enough students are at hand for a reasonable class size.

Technologically assisted conventional teaching appears to be the model of choice of conventional colleges and universities, both in the United States and abroad,[72] to enter the distance education market. While making it possible to serve off-campus student populations, it lends itself also to enrich conventional

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[71]The chancellor of the Fernuniversität Hagen cited this as one of the reasons interactive teaching has not taken hold.

[72]This is the case also for Australia, a country in which distance education has a very long tradition and a high level of acceptance. For example, although the post-secondary instructional system in Australia is mostly print-based, audio and video are used. Students study from printed materials dispatched via mail, listen to audio tapes or radio programs, view television or video programs, and engage in interactive communication such as teleconferencing. Students in some institutions such as in the TAFE (Technical and Further Education) system study from one-way video/two-way radio via satellite transmission. Distance Education in Asia and the Pacific. Op. cit.

teaching. Its cost effectiveness is enhanced in the conventional college and university setting, because both conventional and technologically assisted teaching draw on many of the same resources. This approach is conducive also to the development of consortia.

2. **Distance and Open Universities.**

Open universities differ from conventional colleges and universities on practically every level of operation and in their philosophy of education. Open universities have a relatively short but successful history. They are a creation of the last 25 years.[73] They have grown from two prior to 1970, to over 30 by 1994.

Open universities have no campus. They provide their education services primarily[74] at a distance. They have no dormitories. Their student population is widely dispersed. They do not have a teaching faculty in the conventional sense. Their students are generally self-directed learners. Open universities do have traditional support services, such as library services,

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[73]Open universities are operating on all continents. In North America, Athabasca University in Alberta and the Open Learning Agency of British Columbia are representative. Minor differences in approach and operation are due mainly to national traditions and conventions. Although called open university, not all of the distance universities are genuinely "open" universities. Some retain more or less rigid traditional characteristics as to admission criteria and academic scheduling.

[74]Although there are some provisions for face-to-face instruction and dialogue, most courses do have requirements for one or several comprehensive, often week-end, workshops or seminars. In some instances, they may extend up to three weeks. Students may come to the open universities home site, the campus of a conventional facility, or to some other appropriate facility.

laboratory experiences, and counselling. But they provide them in different ways.

Open universities do not teach in the conventional sense. They create learning opportunities. The first steps in creating a learning opportunity is the development of a learning package and a learning plan for each course to be offered. Course teams[75] develop courses with maximum flexibility built in. Modules within courses provide for even greater flexibility. The modular structure facilitates course updating. It makes it less costly, because only out-of-date modules, not the entire course, need reworking to keep learning materials current.

The open universities' primary medium for structuring the learning packages is print. Videos, videodiscs, and computer diskettes, are just now beginning to be integrated into the learning packages. Broadcast and closed circuit transmission of learning materials by means of radio and television have still limited application.[76] Basic laboratory experiences are furnished through the provision of kits to students. More advanced laboratory experiences are provided through contractual

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[75]The next several pages draw on Daniel Granger's previously cited article.

Course teams work on the principle of interdependence. They bring together content experts, institutional core faculty and frequently professors from several institutions, instructional designers, media specialists, and resource personnel, such as librarians and laboratory experts, to sort through the best modes and manner of content presentation. They form a type of teaching community intent on fully engaging a wide range of learners in a variety of circumstances and environments. Content experts must mesh their ideas and solutions for presentation with other members of the team. The work of course team members is complete once the learning package is finished. They themselves do not interact with students during the learning process.

[76]See footnote 71.

arrangements with universities and with industry. The primary goal is to provide for the greatest possible flexibility in course use to achieve an environment of individualized instruction. Open universities achieve this flexibility by shaping course content, pedagogical methodology, learning resource materials, and timing to the needs of individual students.

Once registered for a course, the student receives a learning package and a learning plan, and the learning process begins.[77] Course resource persons[78] link the learning package to individual students through the learning plan. A course resource person differs from a conventional classroom instructor in that the course resource person is not the primary source of information. A course resource person is a learning manager, a guide, who explores course materials with the student and manages the learning plan in such a way as to individualize the course to the individual student's degree of knowledge, skills, needs, and

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[77]Although the process developed by open universities is ideally suited to start a course at any time, some adhere to defined academic calendars. For example, students can register only at the start of an academic year or, in some instances, at the beginning of each term. Once the learning package has been delivered a predetermined cycle of submitting and returning work assignments commences.

The rationale given for this rigidity is to maximize efficiency of course resource persons who correct the assignments and papers and serve as course managers. By regimenting the process, the energies and attention of the course resource persons on specific issues at specific times is maximized. Also, because many courses have a formal face-to-face seminar or workshop component, it is essential that a sufficient number of students are at a specific point within the course sequence.

[78]The number of course resource persons varies from course to course depending on enrollment. Faculty generally tend not to serve as course resource persons. Their role is described later in this section. Course resource persons are professional staff from conventional institutions, from industry, and the professions. They are generally under term contracts.

the individual student's degree of knowledge, skills, needs, and circumstances. The course resource person engages the student actively in the process. The course resource person serves also as a link between the student and various supportive resources. The course resource person is accessible to the student throughout the learning process through a number of communication options: mail, phone, E-mail, computer, and for face-to-face meetings at regional support sites.[79]

The learning process is rounded out by one or more week-end comprehensive workshops or seminars. In some disciplines, workshops of up to three weeks are arranged at either the open university's central site or by using the facilities of a conventional university or appropriate other facilities. Regional sites provide learning support services and access to resources. They are most frequently located at a conventional university.[80] Open universities have adopted the industrial model of production: build a good product and then provide top consumer service.

The size, role, and composition of the faculty at open

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[79]For an example of the distribution of support centers for one such open university, the Fernuniversität Hagen, see the next page which is reproduced from a brochure of the University.

[80]Ibid.

The Fernuniversität has developed a fairly comprehensive range of programs to the doctorate level. Materials are print-based and specifically prepared for distance education and self-directed learning. Student learning support centers are established whenever a sufficient number of students become available in a given area. Support centers are most frequently collocated in the facilities of conventional post-secondary institutions. The host states provide the financial resources for the support of the course resource support sites. By 1994, 57 sites were located in all German states, as well as 3 sites in Austria and one each in Switzerland and Hungary.

Starting at the FernUniversität begins with the right information

Information on the studies

The information material on the programme and the studying system used at the FernUniversität can be sent for free of charge.

Brochure No.:

1	Studienangebot - Das Studienangebot an der FernUniversität
1A	General Prospectus (engl.)
2	Fachbereich Elektrotechnik
3	Fachbereich Wirtschaftswissenschaft
3A	Sportökonomie
4	Fachbereich Mathematik und Informatik
5	Fachbereich Rechtswissenschaft
5A	Einführung in das japanische Zivilrecht
6	Fachbereich Erziehungs-, Sozial- und Geisteswissenschaften Das Magister-Artium-Studium
7	Fachbereich Erziehungs-, Sozial- und Geisteswissenschaften Weiterbildung
8	N.N.
9	Brückenkurse
10	Informationen für ausländische Studieninteressent(inn)en und Studierende der FernUniversität im Ausland
11	Förderungsmöglichkeiten
STEB	=STudienEinführungsBeratung A special introductory course with the title "Studieren an der FernUniversität" (Studying at the FernUniversität) gives assistance in choosing one's course

Counselling

Important places to turn to for the written, telephone and personal counselling of prospective students are the study centres and the Central Study Counselling Office (Zentrale Studienberatung). This is where application forms and information about studies can be requested.

The address is as follows:

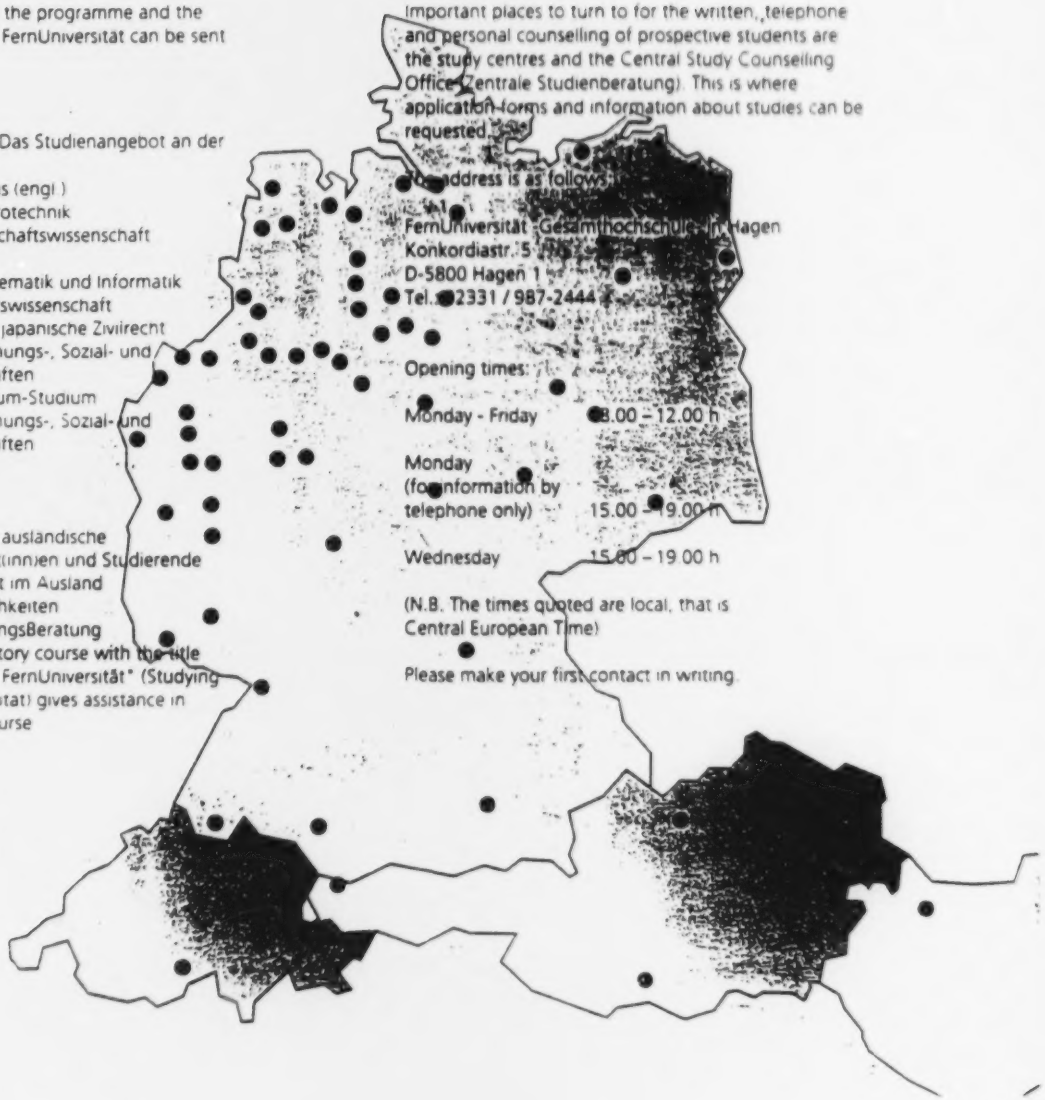
FernUniversität - Gesamthochschule - in Hagen
Konkordiastr. 5
D-5800 Hagen 1
Tel. 02331 / 987-2444

Opening times:

Monday - Friday	8.00 – 12.00 h
Monday (for information by telephone only)	15.00 – 19.00 h
Wednesday	15.00 – 19.00 h

(N.B. The times quoted are local, that is Central European Time)

Please make your first contact in writing.



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universities are also substantially different from that of the faculty at conventional colleges and universities. Relative to faculty, it is a much less labor intensive environment. Open universities have core faculty.[81] They do not teach in the traditional sense. The faculty's primary function is to plan, implement, and administer programs, and to participate in the preparation of learning packages for the courses which make up the programs. They are principal resources of learning package development teams. As does faculty at conventional post-secondary education institutions, the core faculty is actively engaged in research.

While conventional colleges and universities are structured along faculties, schools, and institutes, open universities are structured along operational lines. In addition to the faculty and course resource persons already discussed, open universities generally have an administrative unit to manage the overall operation of the institution; a planning and development unit to manage the development, acquisition, and assemblage of learning packages and the development of learning plans; and a communications unit to get learning materials to students and to manage communication between course resource persons and students, and among students.

The funding patterns and funding requirements of open universities differ from those of conventional colleges and

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[81]For example, the Fernuniversität Hagen has 72 professors and a student body of 55,000. The University of Minnesota System with almost the same number of students has several thousand academic staff.

universities as to timing and focus of material allocation. While they do not require substantial investments in buildings, like the industrial model of production, they require very substantial funding up front for program and course design and for the production of learning packages before any delivery of education services can take place and before enrollment driven income can be generated.

In comparison to conventional universities, open universities are less capital and less labor intensive relative to the size of the student population they are capable of serving.[82] The operation of open universities over 25 years has shown also that they are capable of providing quality education at lower per student costs.[83]

Because the location of an open university relative to its student population is irrelevant, it can never be built at the wrong spot. The model of an open university is uniquely adapted to draw on and maximize existing educational resources wherever they are located relative to student concentrations. It can draw also on the expertise of experienced, existing faculty, and the

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[82]The chancellor of one of the open universities, the Fernuniversität Hagen, demonstrated that his university has:

1. a per student operational cost of approximately one third of that of conventional sister universities.
2. a space to student ratio of approximately 1 m^2 (i.e. 10 square feet), and
3. a faculty of 72 for 55,000 plus students.

[83]Ibid.

Open universities are capable of developing a majority of post-secondary programs. They can be developed incrementally by developing programs based on a priority needs basis. This reduces the need for comprehensive initial investment.

physical resources of colleges, universities, manufacturers and corporations.

Flexibility in time and space makes it possible for substantial populations of individuals to access post-secondary education offered at a distance. These individuals could otherwise not do so, or they could do so only with serious interruptions to their lives and careers. For the same reasons of flexibility, the individualized learning processes of open universities are uniquely adapted to assist individuals to stay competitive in modern labor markets which require more and more periodic and just-in-time continuing education and retraining.

Among the disadvantages is a lingering skepticism of some educators because of a perceived one-sided focus on learning. These educators find that the environment of distance education does not give sufficient overall attention to the development of the whole person. They perceive that the conventional campus setting is more conducive to that type of nurturing. Also, distance education and open learning methodologies have not yet had the benefit of the massive amount of experience and research as has conventional education.

Finally, the methodological and philosophical foundation of the open university concept provides ideal opportunities to integrate the new and evolving technologies to enhance its processes for the delivery of education materials and to create learning opportunities. Open universities, however, have not been able to free themselves sufficiently from established

academic traditions. Open universities were successful in freeing students from the constraints of time and place of campus and classroom. They have not, however, been able to free themselves, in all instances, of traditional conventions to facilitate access and student progress at will.

Open universities have exploited to the fullest the medium of print to construct their learning packages. As a whole, the open universities have been relatively slow to exploit the capabilities and the potential the new technologies have to offer over print.

Some open universities have begun to move in creative directions. They are emerging more as multimedia education brokers and learning networks than as independent providers of post-secondary education. Operating examples that reflect elements of this emerging model are the Open Learning Agency of Hong Kong, the National Institute of Multimedia Education-University of the Air of Japan, the Networked College of Communications in the Pacific, and to a certain degree it appears to become the thinking of the Open Learning Agency of British Columbia. The boldest plan in this direction was announced earlier this year, the Global Learning Network (GLN) proposed to be housed in Switzerland.

Multimedia education brokers and learning networks take the open university concept one step further. They espouse the same philosophy of education. The focus is on creating learning opportunities and on individualized learning. They build on the

same operational principles of structuring learning packages and learning plans. They develop the same support mechanism of course resource persons and strategically located regional support sites. Where they will differ is the degree of the integration of technologies both in the development of learning packages and execution of the learning process and the degree of in-house development of learning materials. Instead of print and the mail, the emerging models of multimedia education brokers and learning networks will structure the learning packages on a multimedia base. The learning materials will be stored on a central computer, and the learning plan will be managed by the computer. Students will access the central computer with a personal computer with multimedia capabilities and download learning materials or pursue the learning process interactively. The computer will become also a primary medium for dialogue with course resource persons and among students.

For the production of learning materials, in the new model, the immediate provider of post-secondary education services will be more of a broker than producer. The broker will network, manage, and coordinate the courses and programs of participating post-secondary education providers.[84] Perhaps the best way to sketch the developments in this direction is to relate the elements of an article announcing plans for the establishment of the Global Learning Network (GLN).

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[84]The National Technological University, to a certain degree, operates along these lines.

An ambitious plan for the alternative provision of post-secondary education was announced in June 1994.[85] The plan proposes the creation of the Global Learning Network (GLN).[86] The administrative headquarters and the operational center are proposed to be located in Switzerland. GLN is proposed as a for-profit provider of formal and informal post-secondary education services.[87]

The GLN would be a tele-university through which the learning materials and programs of any university or other provider of post-secondary education worldwide that would chose to participate would be made available.[88] The core of the proposed institution would consist of an administrative structure and a computer center where all learning materials would be stored and which would serve as the institution's communication center. Students would access the learning resources with personal computers with multimedia and graphic capabilities.

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[85] WirtschaftsWoche, Nr. 25 / 17.6.1994, Bernhard Rose, Switzerland.

[86] Ibid.

Principals of the proposal are Mr. King V. Cheek and Neal B. Carter, Vice-President of the New York Institute of Technology and post-secondary education consultant respectively. Listed among the initial supporters of the venture are: UNESCO, Telecommunication Union - Geneva as representing telecommunications organizations worldwide, and some 120 universities. The latter include universities from the U.S., Switzerland, South Africa, and Great Britain. Among major corporations supporting the plan are: AT&T and the computer manufacturer Silicon Graphics.

[87] Ibid.

Coopers & Lybrand has projected an initial capital requirement of $200,000,000.00. The primary proponents propose that ultimately shares would be offered on the stock market.

[88] The announcement for the planned GLN stated also that preliminary contracts with hard- and soft-ware providers and with a number of universities had been completed.

At the time of the announcement, experts from a number of the world's foremost universities were said to be working on multimedia-based learning materials for the Network. The Network proposes both general education and professional programs, including such laboratory- and practicum-intensive disciplines as engineering and medicine. An international council is planned to determine curricula and course content. Worldwide standards for program completion are envisaged.

In order to access the Network's education services, a learner would require as a minimum an ISDN-telephone connection and a personal computer with graphic capabilities. Learners would be able to download a specific program from the central computers and individually work through the program. Learners would have computer- and video-access to course resource persons or mentors. The central computers would serve also as a library data-bank.[89] A major consideration, at this point in time, is the assembling of the inaugural capital. The GLN is not yet reality.

The concept of the GLN, however, is taking hold within the distance education and open learning communities. This became evident from the discussions at the Second Annual Meeting of the

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[89]In addition to individual access via computer, the Network envisages televersities for areas in the world where individuals would not be able to acquire personal computers or where the necessary communications infrastructure for individual access does not exist. These televersities would serve for such areas as access points and furnish the necessary equipment and interconnection.

Similarly, employers could provide such access facilities to their employees for professional development courses and programs, or regular study programs toward degree completion.

Standing Conference of Presidents of open universities of the International Council for Distance Education.[90] A number of distance education and open learning institutions are moving in this direction. They are beginning to form partnerships with like and with conventional institutions. They purchase learning packages on the open market. They consider it a matter of quality and a matter of fiscal necessity.

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[90]See footnote 1.

CHAPTER IV

Chapter IV describes how alternative approaches to the delivery of post-secondary education services, especially the new technologies, might affect the management of state oversight relative to the protection of consumers. It identifies also issues that might be raised under the Commerce Clause of the Constitution of the United States against a state's registration, and program and site approval requirements. The chapter considers two options for effective post-secondary oversight in the changing environment: a partnership of the states for the coordination of oversight of post-secondary education on the national level and the refocusing of the regulatory process from one of "policing of institutions" to one of "consumer education" for the protection of consumers.

CONSUMER PROTECTION

Consumer protection has become a significant activity of governments in the United States.

In the United States, the protection of consumers is an established activity of government. Governmental intervention in the market place to protect consumers has paralleled the increase in the sophistication of goods and services, and of promotional practices in the market place. Governments' efforts to provide consumer protection have generally proceeded by means of statutory provisions and departmental regulations. Statutes and/or regulations provide minimum standards or guidelines for the production and/or content, distribution, and marketing in the case of goods. For services, they provide minimum standards for the manner in which services must be performed. Oversight responsibilities are generally mandated to a government department or an agency.

Frequently, consumer protection statutes are legislative reactions to actual or perceived occurrences of deceptive

practices, or the marketing of faulty goods or goods not fit for the purpose for which they were intended.

Post-secondary education providers furnish a type of goods and services. Acquiring a post-secondary education represents a substantial outlay in time, effort, and money by individuals. Among potential offending practices that affect the usefulness of an investment in education are: inaccessibility to students' records because of institutional closings, early destruction of records, or improper record keeping;[91] deceptive recruiting practices;[92] recruiting practices tied to loan fraud;[93] unavailability of programs and courses advertised; deteriorating quality of facilities, and program standards.[94]

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[91]Although the knowledge, skills, and competencies acquired are the "goods" received for the investment, an individual's academic record or transcript is an important key element in an individual's ability to market what he or she has acquired. To protect this aspect of the investment, the Minnesota Higher Education Coordinating Board recommended modifications to Minnesota's oversight statutes and rules. Student records must now be preserved and remain accessible for a period of 50 years from graduation. In the absence of a plan, an institution must post a bond in support of the protection of student records. Minn. Stat. 136A.

[92]As a result of perceived deceptive advertising, the Minnesota oversight statute and regulations for private career schools were modified. They require now submission of advertising and recruiting materials to the Coordinating Board for approval prior to use. Minn. Stat. 141.

[93]Although no known cases exist in Minnesota, instances have been identified in other states where institutions recruited individuals off the streets and had them sign student grant and loan applications. Some of these individuals had no intention of attending classes and the institutions in question made no efforts to encourage attendance. The Chronicle of Higher Education carried reports of this nature a number of times.

[94]In the early 1990s, the state of Alaska settled a pending suit of students on behalf of a private post-secondary institution. The students had filed suit alleging non-delivery of promised courses and lack of equipment. Ayala, Case No. 4FA-88-192 Civil

A similar suit was filed in the early 1990s by a group of students in Duluth against the Duluth Technical College. The suit alleged non-availability of promised equipment. It was dropped before it reached trial.

Providing public post-secondary education and public financial assistance to students requires substantial investments by taxpayers. While it appears reasonable to protect students as the immediate consumers of post-secondary education services, it appears reasonable also that governments express concern for the protection of taxpayers, the investors in public post-secondary education. Taxpayers are also investors in state and federal student financial aid to students enrolled in public and private colleges and universities.

Taxpayers, therefore, have quality concerns also. They expect that their money provide for quality post-secondary education and that institutions deliver what is promised. Taxpayers are concerned also that their money is invested wisely, that unnecessary services will be avoided.[95]

The United States has a deeply rooted tradition of self-regulation of the professions and of post-secondary education.

Unlike most political jurisdictions, in the United States, consumers rely generally on the self-regulation of the professions and of post-secondary education. In some U.S. jurisdictions, oversight and regulation have been legislatively mandated to the professions and professional associations. Thus

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Since 1989, the Minnesota oversight statute has required the approval of new programs. Prior to that time, the Coordinating Board's mandate was to "review and comment" proposed new programs. More recently, the statute was amended to mandate the review of existing programs. The criteria identified in the statute, if properly followed, should assure a base threshold of quality.

[95]To protect that interest, the Minnesota oversight statute mandates the avoidance and elimination of unnecessary duplication of programs. Minn. Stat. 136A.

for example, the legal, medical, and engineering professions substantially regulate themselves. Post-secondary education has, to a significant degree, also regulated itself. It has done this through regional accrediting associations, such as the North Central Association of Colleges and Universities, and through discipline-specific associations, such as the American Association of Collegiate Schools of Business.[96]

During the past 40 years, state and federal governments became increasingly active in the regulation of post-secondary education in general, and private post-secondary education providers in particular, as a means to protect consumers.

In most jurisdictions outside the United States, education is a government-provided service. The United States is one of a small number of countries where private education, especially private post-secondary education, has a substantial "market share" in the provision of post-secondary education.[97]

The number and capacity of public and private providers of post-secondary education services increased substantially in the years following World War II.[98] Government funding policies for post-secondary education and policies for financial assistance to

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[96]The author of this report has identified over 130 accreditation authorities in the United States.

[97]For example, in Minnesota, the private four-year colleges collectively have maintained an approximately 10 to 13 percent share of students relative to the whole student body during the period of rapid expansion up to the present. Minnesota Higher Education Coordinating Board. BASIC DATA SERIES, reports numbered 1 through 22.

[98]During this period, Minnesota expanded the University of Minnesota to sites in Duluth, Crookston, and Morris; evolved the state universities; and created the community and technical college systems.

students have made access to post-secondary education a reality for the majority of Americans, while increasingly sophisticated working environments are making post-secondary education a necessity for more and more individuals to enter and stay in the labor market.

With almost universal access to and substantial direct and indirect[99] government funding of post-secondary education, governments have shown increased interest in its regulation. Beginning most significantly during the 1960s, the states began to enact statutes and to create bodies to regulate and oversee public and private providers of post-secondary education.[100] The Minnesota Legislature enacted two primary statutes that address issues related to consumer protection. They are Minn. Stat. 141[101] and Minn. Stat. 136A.[102]

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[99]Through student financial assistance. This type of indirect funding benefits public and private post-secondary institutions.

[100]A significant regulatory effort of the federal government relative to consumer protection issues is contained in the 1992 higher education reauthorization bill that provided for the review of post-secondary education providers through state post-secondary review entities (SPRP). See footnote 10. It is commonly referred to as SPRE.

The Buckley Amendment and a number of other statutes, such as the "Student Crime Bill," do not address directly education quality content issues. They do provide for quality of life, and privacy protection and access to information.

[101]Minn. Stat. 141. This statute provides oversight for private for profit proprietary providers of post-secondary education services. The statute, entrusted first to the Minnesota Department of Education, is comprehensive and provides, among other requirements, for the registration of institutions, approval of programs of instruction, approval of published materials, approval of all instructors for individual courses, and review of financial statements.

[102]Minn. Stat. 136A Provides for the establishment of the Minnesota Higher Education Coordinating Board (MHECB). The statute, among other responsibilities, mandates to the Coordinating Board approval of programs offered by all public and private providers of post-secondary education

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Minnesota's quality of education is grounded in institutional self-discipline and in collegial cooperation with the Coordinating Board in the execution of the Coordinating Board's legislative mandates for consumer protection.

Minnesota appears to have a "safe product" post-secondary education environment. A legislature induced study of two-year institutions completed in April 1989,[103] concluded that both private and public providers of post-secondary education in the state followed established practices. Consumer protection issues raised in a number of other states[104] were found not to be matters of concern in Minnesota. In-house Coordinating Board staff assessments[105] of the number, types, severity, and frequency of consumer complaints show an overall perception of satisfactory quality in the operation of institutions and in the provision of post-secondary education. This was a conclusion also in sub-studies performed in support of the Coordinating Board's M SPAN 2000 study.[106]

Minnesota's legislative oversight provisions have

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programs in the state, including criteria to be applied in the approval and review processes, and the registration of all private not for profit providers of post-secondary education not covered by Minn. Stat. 141. The registration is commonly referred to as PIR (Private Institution Registration). The statute provides for the registration of institutions located in Minnesota and out-of-state institutions wishing to deliver education services in Minnesota.

[103]Overview of Private Career Institutions Participating in the Minnesota State Scholarship and Grant Program. Coordinating Board, (April 1989).

[104]See footnote 93.

[105]Over the years, Coordinating Board staff informally tracked consumer inquiries and complaints. During 1992-93, Coordinating Board staff assessed the number and types of complaints within the context of a Program and Policy Planning Division initiative.

[106]MHECB M SPAN 2000, Post-Secondary Education Needs of Greater Minnesota. (March 1990, and February and March 1991).

contributed significantly to the state's quality environment. Credit must be given also to the Coordinating Board for its leadership and to the state's post-secondary education community[107] for its collegial involvement in the implementation of the legislative provisions.

As a result, Minnesota has not had to deal with any significant post-secondary malpractice issue. Legislative foresight in enacting statutes with the consumer in mind, and the methodology developed by the Coordinating Board for the implementation of the statutes' provisions, have contributed to the prevention of abuses. They have kept providers not able or willing to comply with provisions from opening facilities in the state, or from delivering their services to residents into the state.[108]

The emergence of alternative approaches to the delivery of post-secondary education, especially the emergence of national and international "electronic universities," will erode the states' ability to oversee and regulate post-secondary education providers.

The statutes and control mechanism now in place will most likely not be adequate in the future to assure effective oversight. Providers of post-secondary education at a distance

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[107]This includes the Minnesota Association of Private Postsecondary Schools (MAPPS) and the Minnesota Private College Council. It includes also the work of a number of voluntary and mandated committees, such as the Higher Education Advisory Council (HEAC), the Inter-System Planning Group (ISPG), and the Program Advisory Committee (PAC), which bring together the state's post-secondary education systems.

[108]Based on Coordinating Board records of inquiries for registration, withdrawals of applications for registration and/or program approval, and Board denial for registration and/or program approval.

by means of the new technologies transcend traditional concepts of space. They do not readily fit into the traditional concept of territorial jurisdiction.

In the past, overseeing and regulating the delivery of post-secondary education in the state was facilitated by the need of some physical presence of the provider in the state. Areas of operation were defined by the jurisdictional borders of the state. Providers of post-secondary education operated facilities in the state, used in-state media for advertising, or used the mail, or purposefully transmitted services to residents of the state.

The emergence of national and international providers of post-secondary education by means of the new technologies creates significant limitations and new obstacles for state oversight. It makes traditional oversight almost unenforceable. The limitations and obstacles arise from practical and legal considerations.

Conventional delivery of post-secondary education has been primarily campus- and/or classroom-bound. Correspondence education provided the most significant, although limited, alternative. The integration of the new technologies, such as computers, radios, television, and other means of telecommunication into the delivery of post-secondary education renders the physical location of the provider of the services irrelevant. Students no longer are obliged to go to where the instruction takes place. The provider delivers the instruction

and support services to students wherever the students wish or are able to learn. In some instances, students can access the education resources at will.[109]

In order to be able to regulate the new providers of post-secondary education, the major issue for state oversight is how to get practicable jurisdiction.

The Commerce Clause of the United States Constitution could present potential legal limitations to the enforcement of state oversight provisions.

The Commerce Clause of the Constitution of the United States is a powerful tool for the protection and the promotion of the free flow of commerce across the borders of the states. Statutes inhibiting the free flow of interstate commerce have been found unconstitutional by the Supreme Court. From the mid-1930s to the mid-1980s the Commerce Clause was used increasingly to limit states' efforts to affect the regulation of interstate commerce.

Education in the United States is within the scope of state jurisdiction. Although the matter has not been tested conclusively in the courts, legal opinion appears divided as to whether the Commerce Clause would render ineffective a state's attempt to regulate the delivery of education services by out-of-state providers to its residents, when the provider has no physical facility or presence in the state. While the delivery of education materials by mail or courier into a state has

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[109]The proposed Global Learning Network described in Chapter III would represent the most expansive example of this flexibility.

characteristics of physical presence in a state, an electronic footprint of radio and television broadcasting does not inherently provide for the interpretation of a provider **purposefully** directing services to a specific state. Equally, an individual learner's accessing a provider's resources electronically does not draw the provider into the physical jurisdiction of a state.

Beginning in the mid-1980s, the Supreme Court began to find favorably for some state regulation of interstate commerce when a three-part test can be satisfied. Under this test, a state may place ***reasonable,***[110] ***non-discriminatory regulations***[111] on interstate commerce as long as the ***regulations do not unduly burden***[112] interstate commerce. It applies to situations where Congress has not preempted state action.

As already stated, education falls firmly within the scope of state jurisdiction. While it appears reasonable that a state would prevail on the first and second parts of the test, the

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[110]Reasonable regulations are determined by a "rationality test." That is, a state must establish that the regulation is rationally related to a legitimate government purpose. Protection of state residents from fraudulent providers, or providers of below standard education services should meet this part of the test.

[111]Non-discriminatory regulations are regulations that apply the same rules to out-of-state providers as to in-state providers. Thus, as long as a state applies the same regulations and requirements to out-of-state as to in-state providers of post-secondary education, this part of the test should be met.

[112]To determine whether a burden is undue, the court balances whether the protection of the health, safety, welfare, environment, and natural resources of the state warrant the cost to interstate commerce, and/or whether the regulations and requirements, such as fees for example, place multiple unfair burdens on providers, or whether the regulations have an extra-territorial impact. This part of the test could raise potentially significant issues and obstacles for state oversight.

third part poses potential legal hurdles.

There is, for example, the issue of registration fees. Although non-discriminatory, the fees charged by the individual states could become unduly burdensome in the aggregate. In addition, the fees may not bear a relation to the number of students from a state and thus the financial burden to the provider might have no significant relationship to the burden imposed. The Court also does not let stand a state's regulatory requirements when it has a significant impact on other states.

Issues related to the Commerce Clause of the United States Constitution will most probably enter the debate relative to the future definition of the states' power to regulate out-of-state post-secondary education providers. Attention to this issue will most probably be elevated when a major technology-based provider of post-secondary education emerges on the national level.

Attempts to regulate providers of post-secondary education that do not purposefully direct their services to a specific state, but whose services are "intercepted" by consumers would, in effect, shift the paradigm from overseeing the provider to controlling access by consumers.

The new technologies increase the complexity of the oversight process for states. Providers of education services, for example by satellite, may not intend to purposefully direct their services to a particular state. Consumers may simply live within the satellite's footprint and avail themselves of the services. In these situations, the state, for all practical purposes, would have to regulate its residents as to what

education services they could access, rather than regulating the provider of the education services.[113]

Practical considerations relative to the cost of administering the oversight of an increasing number of out-of-state providers of post-secondary education suggest a review of the process.

If the aim is to protect consumers, protection can be achieved by "policing" the providers or by educating the consumers. The policing process could become impracticable because not all providers may be able to be reached under the law or in practice. Policing has also become difficult for the Coordinating Board because the resources for the policing process are no longer sufficient.[114]

The litigating of non-conformance with state provisions is prohibitively expensive and time consuming. The Coordinating Board currently does not have the funds to take legal action against perceived offending providers of post-secondary education. The Coordinating Board's extensive and expanding oversight mandates with limited and shrinking resources for their execution favor a review of the processes to achieve consumer

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[113]An analogous situation has occurred in Minnesota during the 1992 legislative session. A resident of the state wished to register at an out-of-state institution not registered with the Coordinating Board. The institution had been denied registration several years earlier. As a result of the resident's complaint, a bill was introduced in the legislature which would have provided the potential for consumer registration without requiring the institution to register and thus comply with the state's standards.

[114]Two full-time and some part-time staff resources are available to register or license over 100 institutions annually and to manage the program review and approval process. The Coordinating Board's program inventory lists in excess of 6,000 programs available through public and private providers.

protection. Alternative methods could provide effective results efficiently.

A compact of states to share oversight of "out-of-state" providers of post-secondary education on the national level does not appear practicable.

It has been suggested and efforts have been made to foster cooperation among the states to provide oversight of providers of education that cross state lines.[115] Among the issues making such a compact difficult are:

1) that all 50 states would have to be participants in order to be effective;
2) the potential that member states participating in the compact would have to accept the lowest common denominator of standards among members;
3) that it may be unrealistic to expect that the requirements of some states would be acceptable to other states; and
4) that legislative provisions may not permit, as is the case in Minnesota, to re-delegate a legislatively delegated mandate.
5) that legislative change of oversight criteria in a state would render the compact ineffective for that state.

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[115]In 1992, a meeting hosted by the New York State's post-secondary oversight authority produced an outline of issues with a view for potential collaboration among the states to rationalize the oversight of out-of-state providers of post-secondary education. The writer is not aware of progress on the matter.

A compact of 50 states to share oversight of "out-of-state" providers of post-secondary education on the national level does not appear practicable. Even if such a compact could be achieved, it would not reach providers of post-secondary education within the global community.[116]

An alternative approach could produce similar results. It could prove simpler in approach and long-term administration and produce significant staff time savings after an initial collation and assessment of other states' oversight provisions.

The Coordinating Board could assess the state oversight provisions of each state in which an institution is domiciled that wishes to deliver education services into Minnesota. In situations where a state's oversight criteria and approval or licensing requirements are equal or more stringent than Minnesota's, the institution wishing to deliver programs into Minnesota could authorize release of the home state's assessment and approval documentation to the Coordinating Board. Favorable action of the home state could serve as a basis for Coordinating Board approval or licensing.

Aggressive and affirmative consumer information and consumer education could provide an efficient, effective, low cost, and non-intrusive alternative for the protection of consumers of education.

Under its current oversight mandate, the Coordinating Board maintains a list of registered and licensed private post-

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[116] For example, the Global Learning Network proposed to be located in Switzerland. See Chapter III.

secondary education providers. The list is updated annually. The Coordinating Board maintains also an inventory of programs approved to be offered by public and private post-secondary education providers in the state. The inventory is updated monthly. The list of registered and licensed providers of post-secondary education and the program inventory are available upon request. They are not widely distributed. Outside the post-secondary education community their existence is not widely known. Coordinating Board staff experience tends to indicate that the inferences that might be drawn from the list and inventory are also not well understood by the general public.

A provider who wishes to operate in the state or deliver post-secondary education to the state applies to the Coordinating Board. The Coordinating Board does not affirmatively search for non-compliant providers. When a non-compliant post-secondary education provider is identified, Coordinating Board staff invite the provider to comply with the state's requirements or to cease and desist. If the provider persists, the matter is referred to the Attorney General. When a provider of post-secondary education does not meet the state's criteria, refusal of registration, licensing, or program approval are matters of documentation to the Coordinating Board at a formally scheduled meeting. The Coordinating Board's decisions are a matter of public record. The Board does not affirmatively draw wide public attention to decisions of this nature.

An aggressive public information and consumer education

program could serve as a powerful tool for the protection of Minnesota consumers of post-secondary education. The threat of potential wide public disclosure of substandard programs and services could serve also as a powerful tool to induce providers of post-secondary education services to conform to the standards set out in Minnesota's oversight statutes.

The current oversight statutes, Minn. Stat. 141 and Minn. Stat. 136A. could support the changed Coordinating Board mandate to provide consumer information and consumer education with minor adjustments. The standards and criteria could remain intact. Providers intending to deliver post-secondary education in or to the state could be required to adhere to the standards and criteria as they are now.[117] Providers could be required to furnish the information they now do to the Coordinating Board at the inception of operation in or to Minnesota. They could be required also to provide the information now required for program approval whenever a new program is introduced.

Following initial assessment and notification to an institution, the Coordinating Board could establish a pattern of rotational or random audits, and audits upon complaints or evidence of non-compliance. The statutes provide already the authority to the Coordinating Board to review existing programs

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[117]Quality criteria for distance education could be incorporated into the statutes as they are developed. The Western Interstate Commission for Higher Education has established a task force funded by FIPSE that has as part of its mandate the development of distance education quality criteria and standards. NADE, the Norwegian Association for Distance Education, has already developed a quality standards handbook. The ICDE, International Council for Distance Education, also is working in support of quality standards and guidelines.

and to review providers when non-compliance is perceived.

An amendment of the oversight statutes could provide an express mandate to the Coordinating Board to develop a consumer education strategy. Such a strategy could take a dual approach. The Coordinating Board could annually publish a post-secondary education guide making known the statutory criteria and listing the institutions that meet the criteria. The publication could list, in addition to institutions operating in the state, known out-of-state institutions that deliver their services into the state. The publication could identify institutions that do not comply with the required criteria. The refusal to provide the appropriate information could be affirmatively stated. Lack of cooperation could infer the impression of non-compliance with the state's standards and criteria.

The Coordinating Board's consumer information and education strategy could establish a pattern and create a rhythm of public expectation. It could include dissemination in simple flyer format of the information to high schools, periodic publication in newspapers, general distribution at education fairs, the Coordinating Board's booth at the Minnesota State Fair, and other appropriate events. Flagrant non-compliance could receive separate and immediate treatment.[118] The availability and

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[118]A similar information campaign in Germany is proving successful. Presently, some 200 German private and foreign providers of education and training services operate in Germany. The Süddeutsche Zeitung, a Munich-based newspaper with national circulation, publishes periodically in advertising format its assessment of some of these providers individually. Public interest in and use of the information is widespread.

publication of an 800 telephone number would reenforce the consumer information and education effort.

A credible degree of auditing and an aggressive public information strategy replacing the current registration, licensing, and approval activities, could be carried out with the staff and financial resources now used for the existing oversight mandate.

CHAPTER V

The rich mix and large number of public and private providers of post-secondary education have created a "name brand" recognition environment relative to the value of earned degrees. Within this context exist significant limitations regarding the transfer of earned credits from one provider to another and the counting of credits toward the awarding of credentials. The situation is particularly burdensome to the needs of a highly mobile society, where frequently it is not feasible for an individual to stay long enough within the delivery range of a provider to complete all requirements for a credential. The situation will be aggravated further with the rapidly increasing access to even wider ranges and different types of providers of post-secondary education in the immediate future. The arrival on the post-secondary education scene of providers focusing on alternative approaches to post-secondary education, such as specialized distance learning providers and electronic universities, will require ultimately new approaches for credit recognition and credentialing. While it appears *reasonable* that a provider should not be required to warrant education credits not under its control, it appears equally *unreasonable* to an individual who has earned credits from accredited providers not to have all validly earned credits counted toward an appropriate credential. The trend toward outcome-based education assessment, combined with a shift from emphasizing teaching to emphasizing learning, also will require ways to assess knowledge and skills toward a credential, no matter where and how the knowledge and skills were acquired. The manner in which two jurisdictions have addressed this issue could assist with the development of a solution for Minnesota.

CREDIT RECOGNITION AND CREDENTIALING A NEW PERSPECTIVE IN THE ALTERNATIVE EDUCATION CONTEXT

Credit transfer problems and the practice of counting only credits earned in a formal instructional context frequently increase the length of studies and the cost of education.

Students do encounter obstacles in transferring earned academic credits from one provider of post-secondary education to

another.[119] The reluctance to transfer credits is sometimes due to perceived qualitative differences and sometimes due to the requirement to earn a minimum number of credits from the grantor of a credential. The inability to have all earned credits transferred requires students to repeat courses in subject matter already covered. It lengthens the time of study, and it increases the cost of education to students. In the case of publicly funded institutions, it increases also the cost of education to taxpayers. Students may be required to take courses over even though they have acquired the knowledge and mastered the skills.

The rich mix of public and private providers of post-secondary education in the United States has produced a "name brand" environment for the value of credentials.

In the United States, consumers of post-secondary education have a wide range of choice among public and private providers.[120] The perceived social and market value of a credential, in the view of many, depends upon the perceived quality of the provider. This atmosphere has spawned a variety of efforts to provide quality assurance and/or quality assessment criteria for consumer guidance. Among such efforts are regional

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[119]In Minnesota, the situation has drawn the attention of the legislature over a number of years. It has also been the subject of analyses in Minnesota and a number of other jurisdictions. Despite these latter attempts, information has not been able to be readily quantified and much is based on anecdotal information. The problem, however, is real.

[120]In excess of 3,600 public and private providers of post-secondary education are listed in the U.S. Department of Education's eligibility list for student financial assistance. See also Peterson's Guide or Barron's.

and subject-specific accrediting bodies,[121] published guides,[122] and a variety of provider rankings.[123]

Generally, accrediting authorities are associations consisting of member providers of post-secondary education that have come together for purposes of "self-policing," and professional associations that have established criteria for membership and/or licensing in a particular field. A provider that meets the prescribed criteria is accredited. Accreditation is perceived as a guarantor of the quality of the education provided. For a significant number of the professions, having received the credential from an accredited provider assures automatic licensing or admission to practice.

Accreditation of post-secondary education is fairly unique to the United States. Even Canada, which has a post-secondary education infrastructure quite similar to that of the United States, does not have formal accreditation. An approximation is membership in the Association of Universities and Colleges Canada (AUCC) or in the Association of Community Colleges Canada (ACCC). There is, however, no formal criteria-based assessment process. A brief look at credit recognition and credentialing beyond the borders of the United States could provide insights into efforts

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[121]Such as the regional accrediting body North Central Associations of Schools and Colleges, the subject-specific American Association of Collegiate Schools of Business, or the profession-specific American Bar Association. The author of this report has identified over 130 such accrediting bodies.

[122]Peterson's Guide for example.

[123]The annual ranking of providers of post-secondary education published by U.S. News and World Report is one such example.

to alleviate the identified problems.

In most of the rest of the world, there are no formal accrediting programs.[124] In many jurisdictions, the only provider of post-secondary education is the state. In others, the government is the primary provider of post-secondary education, while private providers play a minor role.[125] Being a public provider or a "government recognized"[126] private provider is perceived as assurance of equal quality.[127] "Name brand"

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[124]The writer of this report is involved in representing American post-secondary education interests in Europe. European educators, employers, and individuals are puzzled by the American emphasis on accreditation in marketing literature and institutional promotion, and individuals' emphasis as to their alma mater. With the exception of England, where a few providers have exceptional standing, such as Oxford and Cambridge, and France's Grandes Ecoles, no significant distinctions are made among universities.

[125]Belgium is an exception. In the Flemish-speaking part of Belgium, private universities register approximately 80 percent and public universities 20 percent of the students. In the French-speaking part, it is the reverse. "Government recognition" of private providers brings with it generally public subsidies, and, for all practical purposes, government control.

[126]When provisions for private providers of post-secondary education exist, formal government recognition is an important factor. Formal government recognition generally also provides public funding at par with public institutions or at least substantial public funding. Formal government recognition is, in some instances, also the only situation by which the provider may exist as a university or college, rather than an "education association" without official university standing.

[127]A German law requires that a German citizen who wishes to use an academic credential earned at a non-German institution, or at a private institution in Germany not recognized by government, must have the degree recognized by the government of a German state. The registration is called "Nostrifikation." Non-compliance incurs financial penalties and incarceration.

In a recent action before the Administrative Court of the State of Hessen, a document assessing American accreditation of post-secondary education was introduced. The document had been prepared by an agency of the German federal government. The document describes American accreditation as mutual support where the criteria for accreditation are equivalent to the operational quality of its weakest member. Based on the reasoning of the document, the court denied a German citizen registration of the graduate degree he had earned at an American accredited university.

A multi-year effort of the Deutsche Industrie und Handelstag (DIHT) to form an accrediting body supported by German, Swiss, and Austrian employer organizations has been attacked by government officials declaring that the

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perception in post-secondary education is not an issue in these jurisdictions. The credential has inherent value. The identification of the institution granting the credential has no relevance.

The operations of United States colleges and universities overseas, especially the offering of professional programs, such as business education, has expanded phenomenally during the last decade. Post-secondary education ranks among the top exports of the United States in dollar value. This export has two components: international students coming to study in the United States, and United States colleges and universities delivering educational programs through branch operations in other countries. The number of international students coming to the United States continues to increase.

Americans have been studying overseas since the colonial days. The flow until recently consisted of graduate students. The majority of undergraduate students participates in programs sponsored by the students' own institutions or a consortium of institutions.[128] More recently, the number of American undergraduates enrolling in foreign post-secondary institutions has been increasing. Because of this internationalization and the potential economic ramifications, as well as the general globalization of education, a somewhat extended discussion of

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only valid quality control can and must be exercised by government.

[128]Such arrangements preserve the credit granting tradition, since the courses taken are, based on the cooperative arrangements, theoretically those of the home institution.

credit recognition outside the United States follows.

In most of the rest of the world, the transfer of credits is not an issue.[129] That is, a candidate for a credential does not present the sum of credits required for the award of a credential. The candidate for a credential must satisfy in the application for admission to a comprehensive examination that a program of studies of sufficient duration, rather than a specific sequence of courses,[130] has prepared the applicant for the examination in question. The successful passing of the exam, not the completion of a prescribed set of courses, is the basis for awarding the credential. In some instances, the examiner is not even the institution, it is the state.[131]

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[129]The course credit system is also fairly unique to the United States, Canada, and, to a certain degree, countries whose post-secondary education systems are based on the British system.

[130]A credential is generally awarded upon the successful completion of a comprehensive examination and a research paper or dissertation at the end of a program of study. Individual courses during the preparatory program of studies may or may not be formally assessed and generally do not influence the "grade" or performance assessment of the credential. The performance assessment of the credential is the outcome of the comprehensive exam.

The assessment process is significantly closer to the emerging trend in the United States to outcome-based assessment and a shift from a teaching-centered to a learning-centered post-secondary education environment.

[131]For example, the Staatsexamen in Germany or its equivalent in other European countries. The Staatsexamen is the more important credential relative to employment, the academic title of doctor or master (Magister) is more or less an independent distinction.

In the United States, "brand name" recognition of academic credentials is perceived as a major consideration in employment and promotion on the job.

In the United States, two factors appear to inhibit the easing of credit recognition and credit transfer among providers of post-secondary education: perceived qualitative differences among providers and funding policies in a free market environment. "Brand name" recognition as to where an individual obtained a credential is perceived often as a major consideration in employment and promotion. Consequently, it is also a major consideration in an individual's choice of institution.

"Brand name" is a major consideration in the selection of a college or university, and a major consideration in a free market environment relative to funding policies.

The free market environment of private post-secondary education providers and enrollment-driven funding of public providers favor enrollment size and student retention. Funding of post-secondary education may be a factor which contributes to the minimum "residency" requirement and reluctance to transfer credits.

Private post-secondary providers of education services are dependent on student tuition, while public post-secondary funding provisions have generally a significant built-in enrollment factor. The size of the student body and the retention of students, therefore, could be considered an additional factor influencing the "resident" credit requirements for the awarding of a credential. Private education relies almost exclusively on

the tuition students pay. A "name brand" institution could not continue for long, if it accepted credits without restriction and granted degrees to students who transfer short of graduation. Similarly, the funding of public providers is enrollment driven. A "highly reputed" public provider equally could not continue for long, if it accepted credits without restriction and granted degrees to students who transfer short of graduation.

Transfer problems caused by the denial of credit earned at other institutions appear to be significant only when enrollment-driven funding is involved.

In most of the rest of the world, post-secondary education is free or tuition is a negligible part of a student's education expense. Enrollment size plays a lesser role in the funding of providers. The size of the student body of a particular provider is not necessarily a significant factor in determining the operating budget.

While it appears reasonable not to require a provider of post-secondary education services to "warrant" the services of another in issuing a credential carrying its "trademark," it appears equally unreasonable not to recognize all of an individual's accredited earned credits of all verifiable relevant knowledge and skills.

As a result of perceived qualitative differences among providers of post-secondary education services, the transfer of earned academic credits from one provider to another for purposes of awarding an academic credential continues to cause problems of cost, course repetition, and delay for students. Providers require significant percentages of a program of studies to be

completed "in residence." That is, a minimum number of academic terms and/or a minimum number of courses in the major discipline identified in the credential must have been taken under the provider's jurisdiction.

In addition to the minimum requirements, providers generally are selective in transferring credits from other, even accredited, providers. Among rationales are: perceived qualitative differences and courses covering similar subject matter are not "mirror images" from one provider to another. As previously stated, for students for whom it is necessary or who wish to change providers, such practices generate additional expenses for lengthened studies, and repeated or additional courses, in order to complete the requirements to qualify for a credential.

Although significant efforts have been made to facilitate student transfer among providers through the establishment of transfer agreements and the publication of transfer guides, considerable obstacles appear to remain.

An increasingly mobile society, the fostering of life-long learning, but more specifically, the increasing availability of location-irrelevant providers of post-secondary education, will require innovative approaches to the awarding and recognition of credits and the granting of academic credentials.

An increasingly mobile society, the need for and fostering of life-long learning, and a wider range and a greater diversity of providers of post-secondary education services will require innovative approaches to the awarding and recognition of credits

and the granting of credentials in order to serve the learning public.

Our already mobile society is becoming ever more mobile. For most, mobility is an economic necessity in a difficult job market, or when in the employment of national and multi-national corporations. For those who study part-time while employed and are transferred prior to the completion of their studies, being able to take their earned credits with them and have them count toward a degree is an important consideration.

The growing availability of alternative providers of post-secondary education, as well as the recognition that not all valid learning takes place in formal instructional contexts or institutional settings, favor the exploration of new methods of assessment and new approaches to the awarding and recognition of credits and awarding of credentials.[132]

Traditional and alternative providers of post-secondary education in some jurisdictions already do, and in the future many more are expected to, share facilities, instructional and administrative personnel, and especially electronic transmission facilities.[133] Providers may share the same television screen, draw on the same instructional personnel, use the same texts and equipment, and be accredited by the same accrediting authority. They may have the same requirements for admission and for the

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[132] The validation of knowledge and skills acquired through non-conventional processes and their conversion into credit equivalencies is discussed later in this chapter.

[133] The descriptions in Chapter III provide early examples.

completion of a program leading to a certificate, diploma, or degree. They may, however, not recognize each other's credits. It all looks the same to the student at the point of delivery. But because the point of origin is distinct, it may frustrate progress toward a degree.

It is not possible for every provider to offer all programs or even all courses. It would be a waste of scarce resources and, in the case of publicly funded providers, of tax funds to offer identical courses and programs through the same facilities.[134] It appears equally wasteful and confusing to student consumers to take courses from various accredited and state-funded providers and not be able to count credits earned toward a credential.

The need for life-long learning and the recognition that not all learning takes place in formal instructional settings warrant consideration of alternative crediting methodologies for those forms of acquiring knowledge and skills which are inherent components of college and university programs leading to credentials.

Accreditation and credit granting and recognition evolved around a well-established relatively uniform tradition. The post-secondary education community now, however, must take into account the realities of a multifaceted delivery of post-secondary education. Especially, the recognition that not all learning takes place in formal instructional settings combined

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[134]For example, if the University of Minnesota and several state universities and community colleges would offer degrees in business and each would offer Introduction to Accounting and other identical or similar such courses through the same communication channels to the same locations.

with the growing acceptance of outcome-based education assessment methodologies should promote the establishment of ways to grant "credits" for knowledge and skills acquired alternatively.

The growing number of alternative approaches to the delivery of post-secondary education makes the issue of credit recognition even more complex than it now is. In promoting more flexible credit recognition processes, the goal is not to avoid standards, but to make it possible to validate learning from diverse sources. Surely, seat time followed by validation by examination is not the only credible process. Research and experience gained through the implementation of outcome-based assessment should assist with the development of credible criteria to assess knowledge and skills acquired through alternative methods and to allocate appropriate credit.

A legislatively mandated credit bank and/or assessment and credentialing authority could provide a credible solution to the problem of credit transfer and the recognition of alternative learning. It could provide an important service to the learning public.

The state of Minnesota through mandates to the Minnesota Higher Education Coordinating Board provides a form of accreditation and quality control of post-secondary education offered in the state.[135] The Coordinating Board has the mandate to approve each new program and to review[136] existing programs.

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[135]Minn. Stat. 136A. and Minn. Stat. 141. For more detail, see Chapter VI.

[136]For public institutions, the Coordinating Board has the mandate to review and continue approval of programs. For private institutions, the mandate specifies review and recommendation.

The Coordinating Board is assisted in the approval process by qualified representation from the state's post-secondary education community, the Program Advisory Committee (PAC). This committee in the provision of its advice to the Coordinating Board applies criteria broadly accepted by the post-secondary education community.

The Coordinating Board through this process has in its inventory in excess of 6,000 associate, bachelor, master, and doctoral programs now being offered in the state. The programs approved by the Coordinating Board are offered by providers accredited also at the regional level. In addition, in many professional areas, they are accredited also by professional associations.[137]

Within the context of program approval and institutional registration and oversight, the Coordinating Board is in a good position to develop and provide the complementary service of a credit bank and credentialing authority[138] for individuals who have completed requirements for programs, but who, for one reason or another, do not meet residency requirements or credit transfer conditions of any single institution in order to be awarded a

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[137]For example: engineering, nursing, social work, and law.

[138]Similar provisions exist already in New York State through the New York State Board of Regents and in British Columbia, Canada, through the Open Learning Agency.

The Coordinating Board is suggested as the only already existing government-sponsored body with the database, personnel, and experience, and successful history of working with Minnesota's post-secondary institutions, appropriate to implement a credit bank and/or credentialing function within the suggested framework.

credential in the traditional manner.

The Coordinating Board has legislatively mandated roles already in the oversight and the quality assurance of programs offered within the state. Within the private institution registration and the private postsecondary school licensing processes, the state requires institutional plans and provisions for the preservation of and accessibility to student records for 50 years, or to post a bond to secure preservation and accessibility. Within the context of serving as a credit bank and assuring the preservation of student records of an institution in the event of its ceasing operations, the Coordinating Board[139] could serve as a state-wide repository of such student records.

The program structures of approved programs contained in the Coordinating Board's program inventory could serve as models against which validated credits could be matched. In matching course credits to the approved quality-controlled program structures, comparable quality credentials to those granted by Minnesota institutions are possible.[140] Experience in New

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[139]In the alternative the legislature could establish a separate dedicated authority as a credit bank and student record repository.

[140]Credibility of a credential determined in such a non-conventional manner has been raised as an issue. Academic credibility was a critical issue also in the early days of alternative institutions such as the Open University in Great Britain, the Fernuniversität Hagen in Germany, and the Open Learning Agency in British Columbia. These institutions have demonstrated that the expectations and standards established for graduates of these institutions are as rigorous as for traditional students. Their graduates are accepted at par with those of conventional institutions.

The credibility issue could be overcome within a short inaugural period, depending on the care and rigor with which the Coordinating Board would implement its mandate.

York[141] and British Columbia[142] tends to indicate that the process is not being abused.

The availability of a credit bank and credentialing authority would protect the integrity of individual institutions by not pressuring[143] them to warrant the education services of another provider. At the same time, however, the process would provide the same level of neutral[144] oversight and quality concern at the state level as is now the case for program review and approval.[145] Among potential criteria to guide a state-mandated credit bank and credentialing authority could be: that credits could be matched only to programs approved in the state;

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[141]The New York State Board of Regents does award credentials on a similar basis as that described above.

[142]The Open Learning Agency has established a credit bank. It deposits transfer credits and has established a mechanism to determine alternatively acquired knowledge and skills. When the accumulated credits match a recognized program, a credential is awarded regardless of the number of credits earned through the Agency.

[143]To alleviate public concern which has been expressed during a number of recent legislative sessions, an alternative to establishing a credit bank and credentialing authority for the state, could be the stipulation for the mutual recognition of credits from duly accredited institutions as a basis for an institution's students receiving state financial assistance. The burden could be imposed on institutions to demonstrate that a denied transfer of credit does not meet established and agreed-upon quality standards.

[144]To preserve the essential neutrality to perform its oversight mandates and to avoid the perception of competition, the Coordinating Board should not be permitted to exceed administrative functions and thus not be granted the authority to offer courses or to perform outcome-based assessment or evaluation of alternatively acquired knowledge and skills. The Coordinating Board's role would be limited to that of a broker between students, providers, and assessment authorities.

The Open Learning Agency of British Columbia, Canada, has teaching and assessment authority, and as such is in a position to compete with the province's colleges and universities.

[145]Not unlike the state recognition in a number of European countries sketched earlier in the chapter.

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that only credits from an accredited[146] provider could be banked as well as credits determined through a formal validation process of alternatively acquired knowledge and skills.

Again, the purpose would not be to avoid standards and quality, but to recognize that in today's world there is more than one way to acquire knowledge and skills, and to provide the means to validate and recognize them in meaningful ways.

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[146]Regionally accredited and where appropriate discipline-specifically accredited.

CHAPTER VI

Chapter VI identifies and discusses issues relative to strategic considerations and options in view of the potential implementation of alternative approaches to the delivery of post-secondary education in Minnesota. It should be noted, however, at the outset that it is not feasible to draw sharp lines. The conventional provision of post-secondary education services occurs primarily in a defined "physical plant" setting: a campus consisting of classrooms, libraries, laboratories, and student life support facilities. The focus is on creating a community of scholars, the proximate face-to-face interaction of faculty and students, and interaction among students. Alternative approaches have evolved essentially as technologically supported distance education. Time and space are practically irrelevant. One or a mix of technologies take the place of proximity to faculty and learning resources in space and/or time. The focus is on the creation of both an individualized learning environment and a community of learners. Understanding the implications of these basic differences should assist with the decision as to whether the provider of alternative post-secondary education should be most appropriately one, several, or all operational unit(s) of an existing college or university, whether it should be a dedicated provider, or whether it should be some form of organizational framework to coordinate the state's existing post-secondary education resources for an alternative approach. Understanding these issues should contribute to a choice of structure for Minnesota and the potential for building a budget process to support funding requirements and for establishing price/tuition policy.

STRATEGIC CONSIDERATIONS AND OPTIONS

Access to a reasonable range of post-secondary education opportunities has been a Minnesota government strategy to maintain and improve the state's economic well-being and quality of life.

Minnesota's highly qualified labor force is a major contributing factor to the state's economic well-being and quality of life. The provision of high quality post-secondary education opportunities has been a strategy of the state's government in developing and maintaining its economy and quality of life. Government policy also has made geographic and financial access to post-secondary education an important

objective.

The climate of government and citizen support has fostered the development of a rich mix of public and private providers of post-secondary education in the state. While a provider of post-secondary education is within commuting distance of most Minnesotans,[147] equitable access to a reasonably full range of post-secondary education opportunities is not geographically available for all Minnesotans, particularly professional programs.[148] Post-secondary education services must be accessible if they are to do the job.

Should Minnesota expand conventional full-service programming throughout the state or develop alternative approaches to assure equitable program accessibility?

Two broad options to respond to the identified need for access to full-service programming are: the expansion of the current conventional post-secondary systems by duplicating full-service post-secondary education programming at more or even all campuses throughout the state, or an alternative approach already proven successful in a number of jurisdictions, the implementation of comprehensive distance post-secondary education

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[147]See the map on page 14.

[148]Minnesota Higher Education Coordinating Board, Program Inventory.

The same conclusion may be inferred from the polls conducted by the Gallup Organization for the Coordinating Board in support of the M SPAN 2000 project. A further conclusion from studies in support of this project was, that although the fullest range of graduate professional programs is geographically concentrated in the Twin Cities Metropolitan area, there is not enough "adequate access" for working individuals. Among the issues were capacity and convenience of access. Both aspects are quite readily solvable within the scope of distance education approaches.

services.

Duplicating full-service programming will require substantial additional investments in physical and support facilities, maintenance, and staff.

Duplicating full-service programming to more campuses will require the expansion and, in some instances, duplication of physical and support facilities. In addition to the one-time funding for the expansion of the infrastructure, it will require ongoing funding for the maintenance of the expanded facilities. It will require the hiring of additional teaching and support staff. The duplication of programs would enhance accessibility. The availability of a critical mass of students for each program at each teaching site could be a significant consideration both from the perspective of pedagogical effectiveness and per student cost.

Distance education has demonstrated that it can be a cost- and resource-effective learning method for most discipline areas and at all levels of post-secondary education.

Distance education has demonstrated that it is a suitable learning method in most areas and at all levels of post-secondary education.[149] It is a learning method independent of subject area, program level, size and type of target group,[150] and location of the course origination. The properly coordinated

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[149]See Chapter III.

[150]Critical mass, for example, can be achieved state-wide and even by reaching beyond.

implementation of distance education is technically capable of bringing full-service post-secondary education within the reach of all Minnesotans. It is capable of accomplishing it without the expansion of the current infrastructure, and by coordinating the participation of the state's colleges and universities, faculty, and existing support resources.

Although the Minnesota Legislature has continued over the years to expand accessibility to a fuller range of post-secondary education services throughout the state,[151] the expansion of conventional campus facilities toward universal accessibility of the full range of programs is financially prohibitive and practicably unfeasible. Distance education does present a financially and practicably feasible alternative approach to reach the objective of near universal accessibility to a full range of programs.

A number of Minnesota post-secondary institutions, both public and private, are already providing education services at a distance. A number of obstacles make the present situation unsatisfactory as to the range of courses and programs available. There is, for example, no conveniently accessible single source of information on the availability of courses.[152] Credit recognition and credit transfer are significant issues. Distance

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[151]For example, the 1994 Legislature elevated three community college teaching sites to campus level.

[152]The Coordinating Board is in a position to provide collective information on some aspects of education at a distance, since public institutions are required by statute to get approval for off-campus **substantial** education activities and private institutions are required to notify the Coordinating board about such activities.

education courses from one provider cannot be applied readily to a program of another provider. In some instances, distance education credits cannot even be integrated into a campus-based program of the parent institution. There is a shortage in the range of courses and programs available, while, at the same time, a number of institutions offer virtually the same courses and programs through distance education.

With current resources, no single institution appears to be in a financial, program, and staff resource position to offer its full range of programs through distance education. Each institution developing its full range of programs for distance education delivery would be contrary to the legislatively mandated policy to avoid unnecessary duplication of programs.

A dedicated provider or a dedicated organizational framework would promote a structured approach toward the implementation of practicable, comprehensive, effective, and efficient distance education delivery.

In Minnesota's environment of collegial decision-making, a fundamental consideration in moving toward implementation of convenient, effective, and cost-efficient distance education is who should provide the service: all currently operating institutions, a limited number of them, one, a new dedicated provider, or some form of coordinated approach?

A review of jurisdictions with successful distance post-secondary education services suggests that the collective

approach does not appear to work most efficiently.[153] Given the Minnesota post-secondary education community's tradition of collegial decision-making, the collegial approach may not provide the proper forum to move swiftly and aggressively toward a distance post-secondary education solution for the state. There appears to be a need for, if not a dedicated provider, at least a state-wide dedicated organizational framework to stimulate progress. The next few pages identify some of the issues intended to assist the debate as to which approach Minnesota is prepared to take.

Alternative approaches to post-secondary education are essentially technology-supported distance education.

Alternative approaches to the delivery of post-secondary education have developed essentially as technologically delivered and supported distance education. The technology may range from print-only correspondence by mail to computer-managed interactive video facilitated learning opportunities. The alternative

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[153]The history behind the Open Learning Agency of British Columbia, Canada, is a case on point. The provincial legislature originally put in place the Open Learning Institute and the Knowledge Network of the West as separate entities. The Knowledge Network of the West had only carriage authority. The Institute's degree-granting powers were limited. The legislature created also the Knowledge Network of the West to provide a medium of transmission for the universities' distance education efforts.

Lack of inter-institutional consensus and the lack of course and program development for distance education delivery induced the provincial legislature to fuse the Open Learning Institute and the Knowledge Network of the West into the Open Learning Agency (OLA) and to invest the OLA with degree-granting powers.

With the transmission facilities at its disposal and with the powers invested in it, the OLA has been able to involve successfully the province's universities and to develop a distance education approach that is considered to be a model by a many international leaders in the field.

approaches have in common that, for the most part, the instructor/course manager and student(s) are separated both physically and/or in time. Academic calendars,[154] class formation, and class size are essentially irrelevant. Flexible technical means are used to furnish learning materials to students, to create learning opportunities, and to mediate communication between instructor/course manager and student(s).

Distance education is a flexible method. Providers of distance education have at their disposal a combination of transmission options: printed materials, the mail, telephone, radio, audio-cassettes, computer-mediated communication, computer-assisted self-paced programs, laboratory kits, computer-simulated laboratory experiments, video tapes, and one-way and interactive television. The technologies on which alternative providers of post-secondary education rely as the means for the delivery of learning materials and for communication are not uniquely applicable to distance education. The technologies are being integrated also into conventional campus- and classroom-based learning contexts to enhance teaching and learning processes.[155] They are being used also to make conventional learning more efficient and effective.[156]

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[154]Some of the distance learning providers identified in this report, however, tend to adhere to traditional academic calendars. The purported rationale for this practice is discussed in Chapter III.

[155]For example, the development of "the virtual classroom" where students in addition to being lectured are able to "experience" virtual reality.

[156]See Tiffin cited supra.

Modern technologies are accelerating the development of alternative approaches to the delivery of post-secondary education. They have the potential to bring the full range of those services within the reach of people who have had no or only limited access. Preparing to reach these new learners requires funding. These new learners are also sources for new revenues.

Technology-based delivery of post-secondary education is not inherently more expensive than the conventional approach. It can be more cost-efficient. The cost of both approaches can range widely depending on considerations of quality, the range and type of programs made available, and most dramatically on the choice of facilities and technologies.

Some commentators offer that distance approaches to the delivery of post-secondary education are expensive to implement and operate. They cite massive investments required for the production of courses, and for the construction and maintenance of transmission and communication facilities. They fail to note the labor-intensive[157] and massive infrastructure requirements of campus, equipment, and staff of conventional colleges and universities. Others project that "electronic universities" will replace traditional colleges and universities. They cite the potential to serve large and diverse student populations in

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[157]If one compares for example instructor-student ratio's in the conventional mode and one class of in excess of 8,000 students per semester at one of the open universities in Europe. While the conventional class context must be fully recreated each semester, in the distance learning mode, once the course has been prepared, it can be repeated over a period of time.

flexible, convenient, and cost efficient ways.[158] It is these advantages that are causing legislatures to look at technology to reduce the cost of post-secondary education while, at the same time, providing needed services to new student populations.

When planning for alternative post-secondary education delivery, a significant consideration, both from a cost and a methodological perspective, is to fit the technology to the particular circumstance. The technologically most sophisticated approach is not necessarily the most appropriate, or the most efficient and most effective for a particular discipline or subject matter. Course development costs range from a half year salary equivalent of one individual and printing costs for courses in such diverse subjects as literature, law, and accounting, to nearly two million dollars for a course in history using a sophisticated mix of interactive media technology.[159]

Courses in professional, science, and technical problem solving areas, which in the conventional teaching mode require substantial laboratory and practical experiences, appear to benefit from a broader infusion of multimedia technology, while

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[158]As cited earlier in the report, for example, the Fernuniversität Hagen in Germany is able to educate between 55,000 and 60,000 students with an annual budget of 130 Million Marks while conventional German universities of comparable size have budgets of from 350 to 450 Million Marks.

[159]An example of such a tactical choice could be the development of a history course. The material could be presented in a package of printed materials, instructions for research, and work books. The materials could be presented also in a more sophisticated manner such as Stephen Allen's series of "debates by historical figures" aired through public television in the 1970s and 1980s. The material could be presented through the use of the most sophisticated multimedia mix creating "virtual reality," where the learner not only receives the information, but can experience the actual historical event by means of full sensory perception ranging from visual to feel and smell. Each approach will have its own price tag.

courses in the provision of information and intellectual problem solving areas may be adequately served through the printed medium. The choice of the level of technology for the production and transmission of a particular course is a tactical choice of the provider relative to its pedagogical philosophy and financial resources.[160]

A system's design should balance program and resource priorities, learners' needs, and methodological preferences when defining the materials' transmission and technical support system, and when developing funding requirements and financial viability of an alternative approach.

Like system design, budget design evolves through the consideration of a number of core issues. Planners must balance program priorities, learners' needs, and methodological preferences when defining alternatives for a system's technical characteristics and course development.[161] Decision makers must judge an approach's viability by balancing funding requirements with potential financial resources, pedagogical and methodological effectiveness and students' preferences, and numbers of students served by a particular course. Careful integration of these issues into the planning and budgeting

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[160]A comparison may be drawn in looking at the pedagogical philosophy of traditional providers. Colleges and universities tend to expose students to a mix of learning experiences, large lecture classes for the transmission of information and small classes for active participatory problem solving and skill development. The choice is a tactical one that varies from institution to institution as to what delivery format to use for which course. In the same manner, a distance provider is in a position to make tactical choices to expose learners to a variety of learning experiences.

[161]The British Open University is a case in point. In the early stages of the university's development, the use of television was apparently a major consideration. Presently, print is the dominant medium.

processes provides the foundation for a successful implementation of a distance education approach.

In the conventional classroom setting, the instructor plans a course and prepares the materials. The class meets at designated times during a predetermined time, a quarter, semester, or academic year. The process allows for and favors just-in-time adjustments in methodology and support materials to enhance the acquisition of knowledge and skills. In the distance learning context, the design, production, format of course materials, supporting infrastructure, and assessment tools should be specifically adapted to the form of delivery and to the specific requirements of its learners, and that prior to the initial offering of the course. A significant difference in the funding concept of conventional and distance course delivery is that for the former, significant ongoing concurrent funding is required, while for the latter the major investment is up front for the development of comprehensive learning packages and communication infrastructure.[162]

Whether the provider of distance education is a dedicated provider or an operational unit of a conventional institution has both practical and political implications for course and program development, and for funding and pricing policies.

A vital consideration, with both practical and political implications, is whether the alternative delivery of education is

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[162]That is, if the delivery is not simply a technologically extended format of the conventional classroom lecture of an instructor teaching in front of a camera.

provided by an operational unit of a conventional college or university, or whether it is provided by a dedicated authority. In a conventional college or university setting, there is generally an undercurrent of faculty attitudes that favors the conventional approach. The conventional labor-intensive system is perceived to be more in the best interest of faculty.

When the provider of distance education is an operational unit of a conventional college or university, course and program development, and funding and pricing policies are driven by the dual goals of serving the needs of an identified clientele and the needs of the institution. In such a situation, distinctive characteristics of the distance education operation are that course and program offerings and the delivery technology are generally designed to meet the specific needs of a narrowly tailored clientele[163] and, at the same time, to fit effectively into the infrastructure of and draw on the available, sometimes surplus, resources of the parent institution.[164] These dual objectives are reflected also in funding and pricing policies.

When the provider is a traditional institution, the furnisher of distance education services tends to be most commonly an operational unit of a college's or university's extension service. The operational unit is induced to design its

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[163]The National Technological University, a consortium of colleges and universities, is an example of serving a fairly narrowly identified clientele.

[164]The range of courses usually made available tends to be driven by the interests of each individual institution more so than by planning to meet a state's or a region's needs for a comprehensive range of courses and programs. The pages that follow draw on Reaching Learners Through Telecommunications. Op. cit.

programs and support services within the parameters of the college's or university's priorities. If the distance education unit does not respond adequately to the needs of either, its existence is in question. It will either have no students, or it will lose the support of essential constituencies. It must meet the needs of students on whose tuition it depends as the major or even exclusive source for funds in most instances. It must accommodate also the needs of the constituencies of the college or university of which it is a part, and on whom it depends for instructors, support staff, support services, and equipment.

Such symbiotic relationships have advantages and disadvantages. Among the advantages are that the education needs of certain populations are being met, and the college or university is able to use its resources more efficiently. Among the disadvantages are that critical needs of student populations within the college's or university's defined sphere of service that do not fit into the college's or university's own strategic objectives are not met.

Budget policy and construction generally tend to reflect the duality of perceived obligations and resources. Operations range from subsidized, to partially subsidized, to stand-alone, to profitable operations. Within the overall budget structure, costs are generally not neatly defined. This is due mostly to the integrated nature of the operations, such as the overhead costs in the parent institution's general operating budget, the cross sharing of facilities, and the provision of professional,

support and technical services among others, which are not specifically accounted for in the budget of the extension operation. Distance education tends to be a peripheral activity of the college or university.

When the provider of distance education is a dedicated provider, course and program development, and funding and pricing policies are driven by the single goal for which the operation was put into place. Distance education is the primary concern, the reason for its existence.

Successful providers of distance education share a number of characteristics. They are unique in their jurisdictions. There is no duplication of services in type. They tend to build partnerships with conventional colleges and universities for the development of course materials and to provide staff and learning resources. Some function as brokers that coordinate the participation of faculty and resources of conventional colleges and universities into their distance delivery activities by contracting for the development of program and course materials, to provide access to learning resources and support facilities, and academic staff. They tend not to emulate the conventional classroom, but to design the course materials in such a manner as to exploit the properties of the new technologies and the environments of learners.

Using the conventional classroom as the instructional model for distance education, by its very nature, will not bring about reductions in cost - it adds the expense of transmission and communication at a distance.

Some distance education providers remain fixed on the classroom as the best instructional model. They use technology primarily to transport conventional classroom experiences to off-campus and remote locations. Since the process mirrors the conventional classroom, costs are those of the conventional classroom. It becomes more expensive. It adds the cost for transmission, communication, and the establishment of duplicate learning contexts at fixed off-campus locations. The experience of established distance education providers tends to show also, that there are practical limitations to the achieving of economies of scale. This is especially the case in interactive situations with a number of delivery sites. The organizational management demands on instructors during the teaching process tend to have a negative impact on the performance of teaching functions.

Technologically supported delivery of post-secondary education services have the capability of an industrial model of production by taking advantage of the potential multimedia technologies offer.

Essentially, technologically supported delivery of post-secondary education services has the capability of an industrial model of production by taking advantage of the potential modern technologies have to offer. Learning materials can be delivered effectively and efficiently to hundreds, even thousands of

learners,[165] thereby reducing the per student unit cost.

The development of pedagogically effective and cost efficient alternative delivery of post-secondary education through distance education and open learning tends to be most effective when it integrates existing resources.

Two experiments that demonstrate considerable success with this approach are the National Institute of Multimedia Education-University of the Air of Japan and the Open Learning Agency of British Columbia. In such and similar settings, the providers tend to serve as a type of broker. There is a central administrative staff to support and orchestrate the operation; a planning and development unit to facilitate and coordinate the development, acquisition, and assemblage of learning packages and the development of learning plans, mostly by bringing together expertise from existing faculty and the world of work, and combining resources in new and inventive ways; a communication unit to provide for getting learning materials to students and to manage communication among students and course managers, and to facilitate access to learning resources. Of particular significance is the research function in support of alternative distance learning performed by the National Institute for Multimedia Education. Significant for these experiments is that they have not staffed up as comprehensive institutions.

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[165]For example, one of the introductory accounting courses offered by the Fernuniversität Hagen in Germany has an average enrollment of over 8,000 students per term.

Minnesota has identified post-secondary education needs that could be served more effectively and efficiently by the addition of distance education rather than by the expansion of the conventional systems.

Throughout the world, some 22 dedicated post-secondary distance education providers in 20 countries have been offering programs for more than five years. Together, they enroll in excess of two million students.[166] In analyzing their respective student populations, two major rationales emerge for explaining the phenomenal enrollment growth. In most of the European countries, the majority of students appear to opt for enrollment with an alternative provider because of convenience. The students are generally older, employed individuals whose work- and life-styles are not conducive to enrollment in a conventional university. A second and growing group consists of students at conventional universities who enroll with the alternative provider for an individual course, because the course is not available to them at their regular college or university of enrollment for a number of reasons, such as schedule conflicts, filled courses, and unavailability during a given semester, among others. For these students, it is a matter of convenience and efficiency. Another somewhat smaller but growing student category consists of individuals with a post-secondary background who need to update their knowledge and skills.

In reviewing the growth rate of some of the European open

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[166]Open Universities, Closing the Distance to Learning. Op.cit.

The statistics are only for the 22 institutions for which 1992 data were available.

universities over 20 years, and comparing distance enrollment as a relative percentage of the post-secondary student population and the population in general, an estimate of about 10,000 to 15,000 students within 20 years appears to be conservative for Minnesota.[167] The estimate draws on the Coordinating Board's own findings. Among them is research in support of the M SPAN 2000 project, and a number of national trend analyses. The findings indicate that working adults would prefer more flexible and convenient access to post-secondary education opportunities, access that takes into account their life- and work-style requirements as well as their maturity to function as self-directed learners.[168]

The second and third types of student populations identified as significant open universities' clienteles are present also in Minnesota. Distance education or open learning could become also the preferred method to meet the growing need for reeducation and retraining of those already in the labor force because of its accessibility and its adaptability to individual circumstances. Because of the ever more rapidly changing requirements of the labor market, significant numbers of those in the labor force are projected to require some form of upgrading and continuing

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[167]In reviewing post-secondary attendance patterns, the situation in Europe appears to be more analogous to the situation in Minnesota.

In arriving at this estimate, potential student wariness because of the skepticism and lack of acceptance by the conventional post-secondary education community as a significant deterrent has not been ignored.

[168]A. Levine in Synthesis. Op. cit.

education every year, a substantial part on the post-secondary level.

Coordinating Board findings suggest that a different kind of post-secondary capacity is required to meet unmet and emerging needs. Equitable access to a reasonably full range of programs throughout the state also is an issue. Based on the experience in other jurisdictions, distance education could provide an expedient, cost-effective, and equitable way to respond to these needs. It would have one distinct advantage over expansion of one or more current teaching sites. It would require **only one expansion** to make available all programs offered through distance education everywhere in the state, and the expansion would **never be at the wrong site.**[169]

To establish a dedicated provider, consortium, or to foster a "free market" competitive approach within the state's established infrastructure, that is the question.

The state's post-secondary education providers have made significant efforts to match their operations to the changing nature of the student body. Some have made major investments to take advantage of the new opportunities the new technologies offer. Under the current financial conditions and funding provisions,[170] it does not appear probable that a conventional

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[169]In certain discipline areas, this might possibly be the only way the state may be able to respond to the needs of certain student populations and to provide equity of access to a reasonably full range of courses and programs to all residents of the state.

[170]The differential funding of part-time and extension students relative to the perceived cost to accommodate these types of student populations.

Minnesota post-secondary education provider will refocus its mission and redirect its resources to the provision of distance education.

The "free market" and uncoordinated development of distance education programs by several or all current providers could foster unnecessary duplication[171] and waste scarce resources, especially in the case of publicly financed institutions, while needed program demands go unanswered.[172] It could lead also to problems for students in the application of credits toward a credential.[173] There is also the consideration of managing access to the state's communication infrastructure now under development.

All but four of the open universities studied for the preparation of Chapter III that have demonstrated success in developing strategies toward development of a comprehensive range of programs, are dedicated providers unique in their jurisdictions. The option of a dedicated provider or dedicated authority to coordinate the development of distance education program development and to manage the scheduling of learning events and/or the distribution of learning materials is supportive of Minnesota's legislative mandate to avoid and

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[171]By more than one provider offering the same or similar courses through the same media to the same public.

[172]In this scenario, tax dollars could be used to produce and distribute over the same communications channels a number of identical courses and programs.

[173]Refer to the credit transfer and credentialing discussion of Chapter V.

eliminate unnecessary duplication. The integration of successful operational elements by a Minnesota dedicated distance education authority from such diverse distance education providers as the European open universities, the Open Learning Agency of British Columbia, Canada, and the National Institute for Multimedia Education - the University of the Air, Japan, could provide a superior solution for Minnesota rather than imitating any one model.

A dedicated distance education authority with a mandate funded for and limited to the functions of a distance education broker could incorporate among its characteristics the following: no faculty of its own; faculty and expertise for course and program development to be drawn and contracted for from existing resources in education and industry;[174] it would not have to develop its own library and laboratory resources, MINITEX and existing library and laboratory resources could support distance education under contractual arrangements; it would not need to develop distinct physical and teaching and learning support staff in areas where these are available, conventional teaching sites would serve as learning support centers and provide instructional, course managerial, and support personnel services.[175]

It should receive funding and staffing for the

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[174]Expertise not available in the state could be contracted for from out-of-state.

[175]See Chapter III.

administration of its mandate, the management of delivery of learning materials and communication over the state's communication infrastructure; for research and assessment of course and program needs; for planning, setting of priorities, coordination, and the management of course and program development, and in support of research for the development of distance education;[176] for the preparation of catalogues and schedules, and the registration of students and for record keeping.

What program range, which technologies and what transmission options, these are other questions.

Cost constraints and identified urgent needs suggest the incremental development of distance education. That is the pattern followed by the open universities. A wide range of technologies is available to develop course and learning materials and to expedite communication. System design and costs can be configured like components for a stereo or computer system. Costs escalate with the level of technology and the methodology of delivery and communication used. Broadly categorized, distance learning support technologies are grouped into three categories:

For course production: print, audio, video, and computers.

For course delivery: mail, radio, broad- and narrow-cast by cable, fiber, microwave, satellite, videotape, videodisc,

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[176]Ibid.

computer assisted programming, and E-mail.

For communication: mail, phone, one-way and interactive radio and television, E-mail, and computer conferencing.

The mix and match of subject matter and the use of technology is a matter of choice based on pedagogical considerations of the perceived student mix for a specific course and funding. While the majority of open universities have been relying primarily on printed materials and mail, they are beginning to incorporate more aggressively the use of computers and video materials.

The most successful approach appears to be a heterogeneous, flexible mix-and-match configuration that adapts program and course design to the intrinsic character of the subject matter and the needs of the targeted clientele.[177] They avoid the electronic reproduction and broadcasting of the conventional classroom model.

Budget construction, funding and tuition/user fees. There are no ready-made models. At best, they can be quantified through a number of assumptions, considerations, and options.

The review of operations of providers of distance education in the jurisdictions reviewed does not provide a ready model for adaptation. All providers presently operating are publicly funded. Most funding is unrestricted. Decisions on program choice for implementation and the choice of media and

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[177]This approach is not unlike the strategies of the conventional approach to expose students to a variety of learning opportunities: large and small classes, lectures and socratic discourse, and seminars and exercises.

technologies are discretionary. Due to the large number of variables identified above,[178] there is no clear and easy model path available to aid in budget construction. There are, however, a number of parameters that will assist in preparing budget estimates. Some of the parameters must be considered as mutually interdependent. Among these parameters are:

1. The identification of the type, size, and particular needs of the potentially targeted student population and territorial reach. This determination interacts with such variables as scheduling, choice of technology, and learning support provisions. This determination includes also the territorial reach. In distance education physical location is not an issue. State borders are transparent. The territorial reach is potentially unlimited. Opening access to residents of other states, and/or sharing access with other states, can have significant revenue implications and assist in reducing the per student costs. In distance education, the major investment is up front. As is the case in the conventional system, course materials are purchased by the learner. Communication and course management costs are the primary ongoing costs for course delivery. The latter represents a lesser share of the overall distance education operations. Conversely, access to attractive

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[178]These include decisions such as: what should be the infrastructure - a dedicated provider or a distance education broker; the decision as to what type of clientele will be served; the balancing of such issues as the instructional value sought, the quality and sophistication of the learning materials to be prepared and the transmission/communication technologies to be used, and the number and range of regional support sites.

out-of-state distance learning opportunities could reduce the cost-effectiveness of in-state distance operations.

2. The identification of course and program needs that require to be served. This includes the definition of the range of programs to be developed over a given period, the setting of priorities within the range, the number of courses and programs to be developed and/or acquired, and speed of development over time within a given budget cycle.

3. The technology selected. When considering budget implications for technology, it is essential to consider and plan for the useful life of the technology. The need to acquire or replace technology, in the experience of currently operating providers, goes through peaks and valleys. In some providers' experience, between 15 and 30 percent of a budget cycle, excluding the cost of course production, appears to be a reasonable estimate to maintain currency. The mix of technology is primarily a matter of choice and available funding.

4. The methods of program transport and faculty/course manager to student and among student communication to be used. Included in this parameter is also the quality, complexity, and level of reliability of the equipment.

5. The number and nature of receive and origination sites for the use of direct broadcast and interactive operations. Prices for the equipping of origination and receive sites will vary greatly depending on individual choices. They are affected also by rapid price declines on existing technology and the

availability of ever newer technologies.

6. The degree of overall interaction designed into the system. This includes the use of interactive technology, access to course management staff, and facilitation to learning support facilities and resources.

7. The size and nature of administrative, research, development, operations support, and course resource support staff. This includes consideration for the management of contracted expertise, travel, space requirements, and production and clerical support.

8. The number, nature, and size of course and program design and development teams.

9. The potential for the commercial acquisition, exchange in kind, and the sale of learning packages. This includes consideration of license fees, royalties, and property right registration. This includes also the issue of pirating and the protection of intellectual property.

Pirating, tuition or user fees in the context of distance education is an issue with far reaching consequences due to the potential for the unauthorized acquisition and use of learning materials. It can lead also to the loss of significant revenue for the provider. Public radio and television, and the publishing and software industries provide ready analogies.

It is not economically feasible for public radio and television to modify broadcasting in such a way as to control who can and who cannot receive the signals. User surveys and

conscience-jarring messages during periodic public television and radio fund raising events are indications of the proportion of paying and non-paying users of these services.

Unlike public radio and television, distance education providers are able to exercise some degree of control depending on learner types. Admission to a conventional classroom provides a certain gate keeping control for the collection of tuition. This mechanism, however, is not available to distance education providers.

Distance education providers are faced with two types of learners: those who learn to acquire knowledge and skills, and require certified proof of that learning, such as credits, certificates, diplomas, or degrees. Then there are those that learn to acquire knowledge and skills without the need of formal proof. For the former, the need to have a document of proof provides for a control mechanism to collect tuition or user fees. For the latter, the individual's integrity, as is the case for public radio and television contribution, is the only guarantee for user pay.

There are implications also, should Minnesota decide to establish a validation of alternatively acquired knowledge and skills. An unscrupulous learner could pirate courses and subsequently have the acquired skills validated without having paid tuition.[179]

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[179]This potential questions the wisdom of the argument put forth in Chapter IV relative to the validation of knowledge and skills acquired alternatively.

10. Base funding for the general operation of a dedicated provider. Once the nature of the function, provider or broker of learning materials, has been established, the general base level operating funding requirements can be determined after defining the nature and number of staff and physical facilities requirements over a budget cycle.

11. Formula for learning materials development funding and recovery. The development of costs is determined up front, since in distance education, the entire course must be completely developed before it is offered for the first time. The planning process includes planning for the preparation of the learning materials, the mix of technologies, and the means for communication. The planning process includes also an assessment of the type and size of the potential clientele over a specific period of time.[180]

12. Tuition or user fees. Tuition policy could be based at par with tuition levels in public colleges and universities. Tuition fees could be set also as a relative percent of estimated course development and delivery costs over a predetermined period of time. Since course development and delivery costs vary

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[180]From this planning process a budget estimate can be developed. Thus, assuming a course using relatively sophisticated technology and having a useful lifetime of 10 years (including periodic updating of some modules within the course) costs a half million dollars. Assuming that during the 10 years, an average of 500 students per year register for the course. The per student cost in view of amortizing the development costs only would be $100. To this would have to be added communication and course resource support costs, and a percentage of administrative and infrastructure expenditures.

Due to the fluctuations in development costs from course to course, the costs could be averaged out. For example, the Fernuniversität Hagen registers an average of 8,000 students per year for an accounting course which is based entirely on print materials, a low cost medium.

depending on the mix and sophistication of technology used, tuition could vary or be averaged out per program, or over the provider's overall operation.[181] Drawing on out-of-state students could increase the profitability of courses and, in certain situations, provide a critical mass of students to develop courses, the cost of which would otherwise be prohibitive.

In the alternative, tuition could be determined on a self-supporting formula. Because in distance education, the bulk of funding requirements is up front before any delivery of educational material takes place, inaugural base- and course- and program-development funding would be required. Roughly, such a formula could include the following components: the actual course development cost could be divided by the estimated enrollment over the estimated useful life of the course. To this would be added the provider's annual operating costs. The total amount could then be divided by the annual student credit hours of the previous year.

The number of providers of distance education is increasing rapidly. Since location is irrelevant, distance education providers are expanding services quite rapidly across traditional boundaries. A number of highly renowned universities have or are on the point of entering the field of distance education aggressively. Among these are Penn State and the Massachusetts

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[181]As stated earlier in the report, the FernuniversitÄt Hagen is able to deliver instruction at a cost of one fourth to one third that of a conventional university.

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Institute of Technology (MIT). Within this context a state may become quite rapidly either a provider or a consumer of distance education. It is essential, therefore, that, if a state wishes to be a player in distance education, it must make a policy decision without delay.